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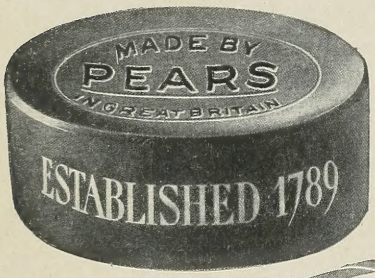

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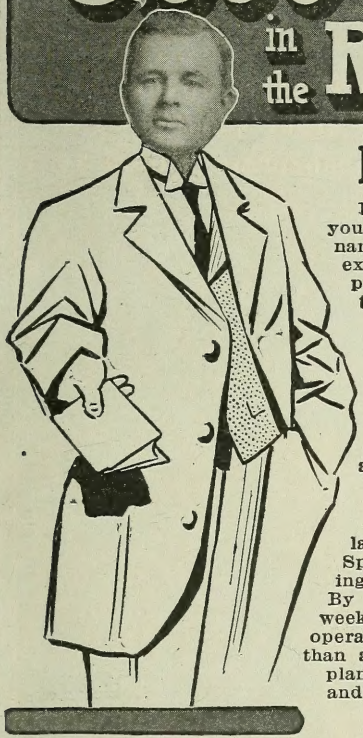

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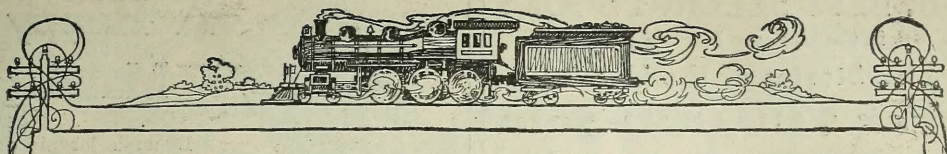

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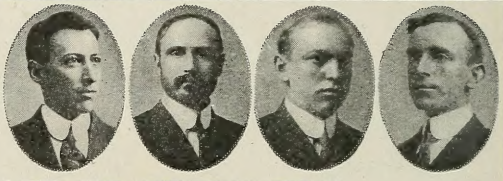

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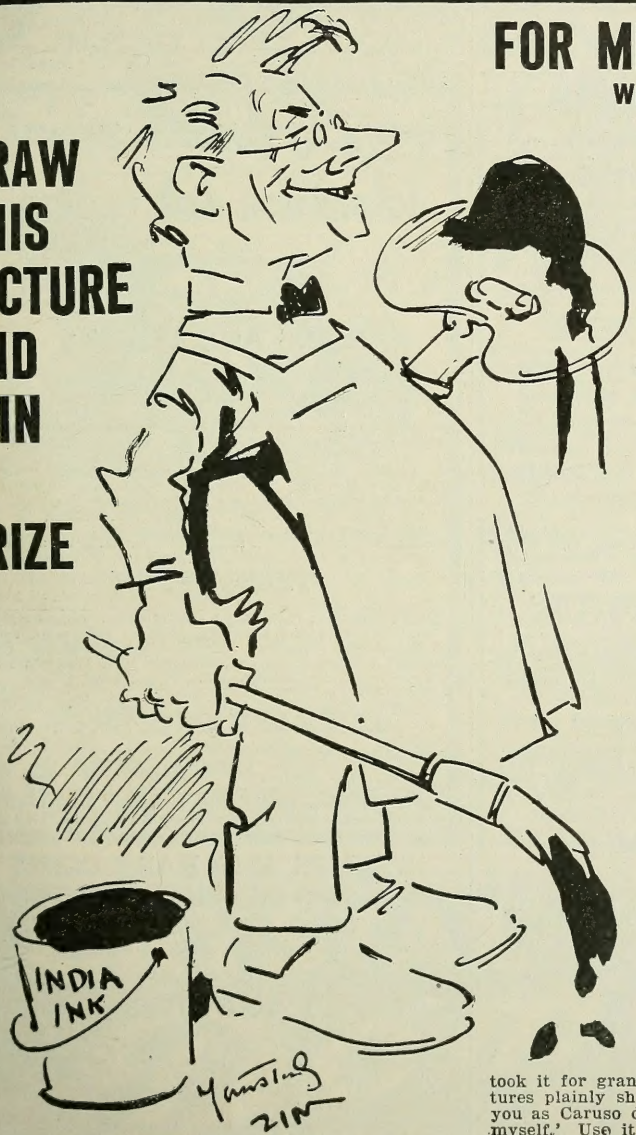

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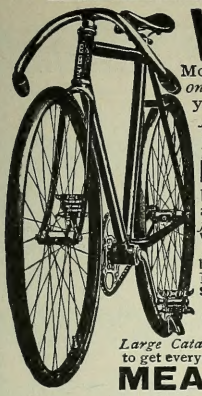

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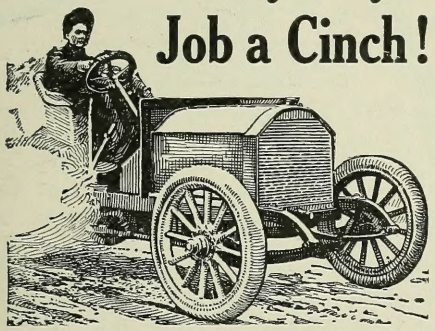

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CHICAGO, U. S. A.

THE RAILROAD MAN'S MAGAZINE

Vol. XI. MARCH, 1910. No. 2.

"WATCH FOR WILLETS!"

The Traveling Correspondent of THE RAILROAD MAN'S MAGAZINE Once More Takes the Long Trail, Prospecting for Stories on Main Line and Branch Line, North, East, South, and West. When You See Him Rolling Along the Rails in Your Direction, Put the Arm Against Him and Start in Stovepiping. If You Can Extend a Helping Hand, Mr. Willets Will Appreciate It, the Editor of this Magazine Will Appreciate It, and We Will All Be Happier.

WATCH FOR WILLETS! These three words have come to be perhaps the most important in THE RAILROAD MAN'S MAGAZINE.

"Watch for Willets!" has been the slogan by which the name of this magazine has been carried from coast to coast and from the Lakes to the Gulf.

Willets is off again. He is going to make a bigger circuit than ever, and he is going to do it just as well as ever. This is his fourth annual tour for THE RAILROAD MAN'S MAGAZINE.

The stories that he has unearthed in his previous tours have carried our readers on the tide of enthusiasm. There's a reason. Every story has registered some throb in the life and growth and history of some section of the country.

He Has Grasped the Railroad Spirit.

It is amid surroundings such as these stories have depicted, and by such incidents as have been related in them, that, step by step, the country has been built up. It is these incidents that have transformed barren deserts or luxuriant wilds into prosperous home country, where virile men and gentle women have lived and fought and made laws for themselves.

It is these things which form the real history of our country, and it is these things that Willets has repeatedly gone to find out and has related with all the vividness of an enthusiast. That is the secret; he is an enthusiast.

He has grasped the railroad spirit from the time that General Dodge stretched out the feeble line of what was afterward to become the mighty Union Pacific; and

GILSON WILLETS,

WHO IS MAKING HIS FOURTH ANNUAL VISIT AMONG THE RAILROAD MEN OF THE UNITED STATES FOR "THE RAILROAD MAN'S MAGAZINE."

when Collis P. Huntington and his associates rushed East to meet him with the Central Pacific, to the time when, as if by a miracle, the Chicago, Milwaukee and St. Paul threw a perfect road across the continent in a two-years' flash.

Mr. Willets has a knack of interpreting all of these phases of railway history, and he has it because he believes in the railroads and in railroad men—because he likes them and they like him. That is why he was restless to be off among them again.

That is why THE RAILROAD MAN'S MAGAZINE has sent him.

By the time this article gets into print, Willets will again be hobnobbing with railroad men. The longest, and in some ways the most important, stretch that he will

strike, over which he has not been before, is the new extension of the Chicago, Milwaukee and St. Paul to the Pacific coast, called the Chicago, Milwaukee and Puget Sound.

We expect this to be one of the most productive stretches of any of Mr. Willets's trips.

Very few people realize the importance of this new line. The country that it opens up is an empire, compared with which many of the kingdoms of Europe are bankrupt and barren. And yet, in spite of the speed with which this wonderful road has been constructed—and in spite of its perfection of road-bed and the ease of its grades—there have been difficulties to encounter.

These Threads of Steel Make History.

The stories of these difficulties are as full of thrills, and have demanded as much courage and vigor, as have many of the spectacular feats of war which go down to posterity as history.

When you read these stories you will realize that the real history-makers of a great country, with its vast untapped wealth, are the slender threads of steel whose course is conceived in the godlike imagination of men who are too large for war; history-makers whose track is laid by the wonderful skill and brilliant daring of men to whom mountains are incentives and not oppositions; who throw their spidery steel bridges across impotent chasms and roaring rivers.

These are the men who are making history, who are writing modern epics—epics essentially American, essentially progressive—and infinitely more vaulting in the daring and ambition of the subject than the childish sword-thrusts of all other epics. It is the desire to grasp this spirit, and to catch here and there a stanza from this wonderful epic, that calls Mr. Willets from his home and people to be a part of this railroad life.

But not only do we deal with these giants of the railway world—these creators and conquerors of vast territories—the switchman, the brakeman, the section-man, the gang foreman, the operator, the engineer, the mail clerk, the shop worker, and the office man—all these come into the net of our story-hungry correspondent. With all these men he has the same bond of sympathy, the same loyalty to the railroad, the same love of railroading; and his admiration for them is as keen as is his admiration for the more brilliant, but not more useful, makers of ways.

His Journey Will Take Him Over the New Roads.

So, in this new country, on the new road by which he is going to travel, these are the men that he is looking for; not for the sake of how many words of space he can get out of them, but because he has been among them before, and he is their friend and they are his friends.

The Puget Sound Railroad is not the only new road over which Mr. Willets will go on his story-hunting career. But more of this later. We will now tell you as nearly as we can the exact course he will pursue on leaving New York.

His first dash will be to Baltimore and Washington. From there he will break away to New Orleans on the Queen and Crescent route; but it will be by no means a direct road.

He will zigzag among old historical roads of the South, where, during the tragic

days of the Civil War, railroad men carried arms in the cab, and were almost as important members of the army as were the soldiers themselves. It is a fact that in many instances in those old days, a civil engineer—usually a railroad man—was of more importance at the moment than the greatest general.

The South teems with these yarns; you will probably know some of them. Watch for Willets!

From New Orleans Mr. Willets will work toward Memphis over the Yazoo and Mississippi Valley, and from there he will take the Missouri Pacific to St. Louis. Leaving St. Louis, he will run over the Chicago and Alton to Kansas City, a section chock-full of railroad yarns practically untouched.

From Kansas City the Rock Island will take him to El Paso; and this stretch, with the additional one from El Paso to Denver over the Santa Fe, provides a field even more unlimited than the St. Louis-Kansas City leg.

From Denver he will push over the Denver and Rio Grande to Salt Lake City, making many stops on the way. At Salt Lake he will strike the first stretch of entirely new railroad, the recently opened Western Pacific, through which he will complete the Western loop to San Francisco.

Leaving San Francisco, he will reach out to Seattle over the Northern Pacific and the Southern Pacific; and from there to Chicago he will come homeward over the new St. Paul extension.

Over Ten Thousand Miles of Track.

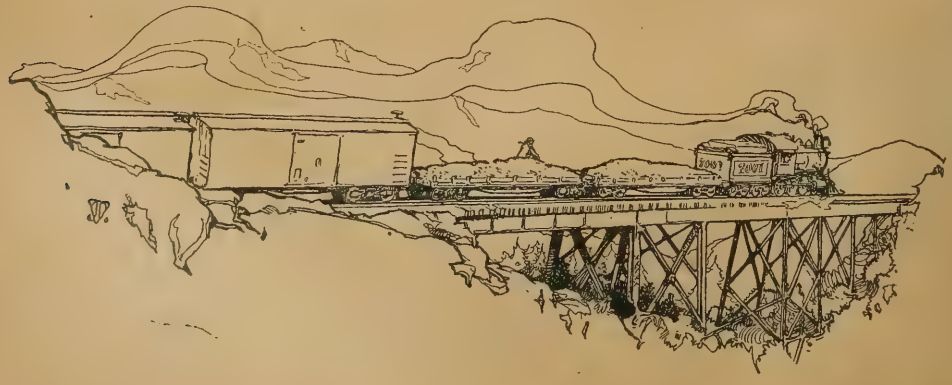
The home trip from Chicago to New York will be made over the Erie Railroad, a road which, perhaps more than any other in the country, abounds in tales of old-timers and in historical interest.

If you take a map and measure up roughly this swing around the Union as we have outlined it, making calculations and allowances for sweeps in and out the circle, you will find that Mr. Willets, when he gets back to New York, will have covered over ten thousand miles of main line. If he is coming your way, you will want to see him. More than that, he will want to see you.

That's a combination that is hard to beat.

You will hear of his approach down the line, because he is welcomed everywhere and by everybody, from section-man to general manager. It is hard to miss him; but, at the same time,

WATCH FOR WILLETS!



The Evolution of "Almost."

BY HORACE HERR.

THIS month we introduce a new character in a new series by Horace Herr, author of "Being a Boomer Brakeman," which was published in our fall and winter numbers.

In nearly every little railroad town there is just such a character as "Almost." He mingles in everything—no matter what it is. He is as ready to fight as he is to laugh. He knows every one, and is a sort of town joke, town guide and town fool combined. But, generally, he has the right stuff in him. Anyhow, here's to "Almost."

1.—THE GENERAL FOREMAN HIRES A CLERK.

There Is a Sudden Addition to the Population of Hulbrook, which "Almost" and Maggie Mahorney, the Postmistress, Try to Remove.

WHEN I dropped off the varnished cars at Hulbrook, that morning, I didn't know that *it* was there. In fact, I wasn't sure that anything was there except the box-car station, for the town was so small you needed an electric headlight and a magnifying glass to locate it.

I believe, according to the last census, there were fourteen people in Hulbrook, but Red Hot Frost told me confidentially that the census man counted two hoboes who had temporary quarters at the water tank, and that the Mexican who took

care of the switch lights was counted twice, once at the east switch and once at the west.

But I got it straight from Maggie Mahorney, who dished out the mail twice a day when there was any, that "onct" there was as many as four families in Hulbrook, counting Jed Latroupe who had a wooden leg and a livery stable.

And There Was It.

I guess Maggie had the real 31 order on the town history all right, because she had a pleasant little way of reading the morning's mail before she delivered it in the afternoon, and every one looked on her as something just as good as an evening newspaper.

But then Maggie wasn't responsible for *it*. When I dropped off No. 1 that morning, I had the Old Man's signature on a piece of railroad stationery, which advised the general public and other officials of the road, that "Effective this date, William Willard Thomas is made general foreman at Hulbrook, Arizona, vice Timothy O'Moran, resigned."

Of course, having the paper didn't do much good if there was no one around to read it, and as soon as I found myself before the box-car station, I looked about to find some one who would be interested in this bit of documentary evidence.

The station-agent read it and made a noise like a leaky flue. I felt like calking him right there, but I happened to look up and saw *it* holding up the left hand corner of the station.

"What's that?" I asked.

"What's what?" came back from the agent as he looked in the direction I was pointing.

Almost Any Old Thing.

"That decoration at the corner of the box car." And then a smile, almost the only smile I ever caught lingering about in the vicinity, crept over the agent's face as if it had a slow order.

"Oh, that's Almost."

"Almost what?"

"Almost any old thing. Jist Almost." he replied and flagged down the smile.

I looked at it. It really was almost anything. It was almost the missing link; almost human, almost nothing.

It must have been born in Kansas during a grasshopper year or a season of mighty drought. It was undersized to begin with, sort of a human narrow-gage, with a face like a rust-colored apple with the rust put on in spots.

Its freckles were almost as conspicuous as its grin which stuck out on its facial premises like a track at a blind siding.

The mouth, to begin with, was cut on the bias and the chin ran off toward Jones's. There was a lot of slack in the joints, just as if the arms and legs were coupled on with links and pins and a fellow kept expecting it to break in two every time it got into motion.

All Right When in Motion.

And that motion. It was on one side with a flat wheel. When Almost first started out, you would have passed him up as a 20-to-1 shot against a field of snails, but when he once had the steam working he was as easy to stop as thirty cars of coal on a forty per cent. grade with wet rails.

But it was interesting just the same. The longer you looked at it the better it got. It was so homely it was good-looking and then that smile! Well, in Hulbrook, Arizona, in that day and age, any old kind of a smile looked like ready money.

If I had known what Hulbrook was I should not have disturbed its sand-colored quietude. But it was down on the time-card in the same size type as the other towns, and most any place with the price of a week's lodging and three squares a day, looked good to me then.

About six months before I was keeping company with a goat down in the U. P. bull-ring in Kansas City, and, being absent-minded by nature, I started the goat out at a nice easy pace, with three peddlers hooked on behind and forgot to shut off until I had hit a visiting official's brass-railed dog-house so hard that the burrhead didn't stop to open the door, but came through the window bringing a bowl of soup and a string of cuss words along with him.

I understand, too, that the stenograph-

er, who happened to be the husband of the official's wife's sister's second maid, or some other close kin, was so flustrated that he put in a full stop instead of a comma, and of course had to write the letter over again, as soon as he got the omelet out of his hair.

For the Great Wide West.

Of course I got mine, and never having been outside the city limits any distance to speak of, I decided to drag it for the great wide west, where dollars grew on trees and promotion came every other day whether you wanted it or not.

Well, when I folded up my service letter and an extra suit of denim pajamas and climbed aboard the rapid wagons, I had never met Almost nor heard of Hulbrook. When I reached Albuquerque, I made a little personal call on the master mechanic, impressed him with the eighteen-carat quality of my ability as an all-around man, and inside an hour had exchanged my line of talk for the paper which made me "General Foreman at Hulbrook."

Where Hulbrook Is.

Of course, the next thing was to find Hulbrook. If it had not been that the railroad led one to the town, no one would have ever been able to find the place the second time and no one would have wanted to.

It's about half-way between some place and some place else, and if it ever sprinkled three drops of rain there, every man in the town would start to build an ark, and if every real man in the town had been building an ark the day I arrived there would have been as many as one ark in the course of construction.

Excepting myself, there was the station-agent, and excepting the station-agent there was me, and not counting us both there was a Mexican section hand, Maggie Mahorney, the postmistress, Jed Latroupe, of the Sign of the Wooden Leg, a flock of California fleas, two dogs, and Almost.

Exciting as a Funeral.

Being a general foreman at Hulbrook was almost as exciting as being a pall-bearer. There was a rusty old "Y" traced there, a pit for cleaning ash-pans, a water-tank and a spur track for coal and water cars.

Going west out of Hulbrook, almost every freight had to have a helper. So, a great deal of the time there was a pusher engine which needed attention, and the

"CAN'T SEE WHERE HE'S HAVING MUCH LUCK."

general foreman was supposed to keep a weather eye on the whole works.

The work wasn't considered in the pay-check, for it was worth one hundred dollars of any man's money to live in the place for a month. Believing that I was earning my money by just hanging around the place, about the second week I decided to hire a chief clerk.

I TOLD ALMOST WE HAD DECIDED THAT—
CHIEF CLERK AT FORTY-FIVE—

Being chief clerk to the general foreman at Hulbrook demanded a young fellow with a strong back and few brains, and I had about decided that such a youth could not be found in the town, when our little village was rudely broken in upon by a large, red-faced gentleman of uncertain occupation, who came off the blind just a few inches ahead of a flagman's number tens.

The New Population.

As our new population weighed all of 190 pounds, it made quite a commotion in the community when it alighted. The first shock came about 9 o'clock in the morning, the second shock came twelve hours later, and it almost precipitated Maggie Mahorney into a siege of nervous prostrations.

About 8.30 that night a pusher engine came in to spend the night on the pit track, and I walked down to look her over and show the crew that the general foreman was always on the job.

Into the Trouble.

Both the eagle-eye and fire-boy were going over to Jed Latroupe's livery stable to spend the night, and I was strolling up the plaza de sandorino toward the box-car station, where I had taken temporary lodging, when I heard a scream which sounded like it came from the post-office about fifty yards away.

I speeded up a little, pulled alongside, then decided that the occasion demanded that I go inside. As the door was locked I had to be a bit rude, but when it flew open with a crash, the light from my lantern was most welcome to both myself and the rest of them. They were as badly mixed up as two Baldwins after a head-on collision.

Over in a far corner near the door

which led from the post-office to the 'dobe room where Maggie Mahorney lived, was Maggie herself. In one hand she held a lamp which had been blown out, and in

—HE SHOULD BE GENERAL FOREMAN'S —SEMOLIANS PER.

the other she held a cannon which would have blown the entire town of Hulbrook off the desert if it had ever decided to explode.

In the middle of the room, near the stove which was used about twice a year, but left standing all the time, Almost, and our new population, were so fixed up you couldn't tell which was which.

Maggie Holds the Gun.

Just as I came through the door, Maggie turned that gun in my direction and it looked as big as the Supai tunnel. Then she seemed to realize that I was one of the regular animals and lowered the gun. I stepped farther into the room, throwing the light onto the bunch of hostility on the floor.

"He's robbin' the post-office," screamed Maggie.

"I can't see where he's having much luck," I answered, and just then the two men came to their feet and, for a moment, I thought I would have to take a hand in an ungentlemanly affair.

I never did think a great deal of fighting. I always had a funny way of getting my face into the other fellow's fist, so that win or lose I generally came out looking like a human porous plaster; and just so long as both men were on their feet, I did not care to interfere.

Besides, it was worth the price of admission. Of course, it looked like a goat fighting a tandem compound, but at that the goat had a way of butting in and getting away again that made him an even-money bet, and a couple of times I couldn't help but give him a glad hand when he struck a coupler into the big fellow's lights.

But the kid was giving away a lot of weight, and I felt sure the time was approaching when I would have to get into the mêlée—and I wasn't a bit anxious.

Maggie, however, was getting excited, and she kept twisting that cannon around in a way that made a fellow nervous.

Well, the big show had been going on for about five minutes, when the new inhabitant set out a load of coal on the boy's eyebrows and he went to the floor, and I was just stepping in to leave the impression of my lantern over the bully's brain-house, when Almost came up from the mat, bringing the poker along and gently tapped his nibs over the cupola.

He telescoped. Went down in a heap, and the boy started to put the kickers to him when I interfered—and came near getting thrashed.

"There's no need killing him," I yelled at the boy, who, excepting the bloody spots on his face, was as white as a sheet.

"He almost robbed the post-office!" panted the belligerent in justification.

Maggie Tells the Story.

But he let up and we proceeded to tie the fellow hand and foot, and I went over to the station, told the big news of

the day, and sent a message down to the next town for the United States marshal.

When I went back to the post-office to see that everything was all right, Maggie Mahorney and Almost were having a little chat. I heard the boy saying:

"I reckin it wasn't just right ter drop that poker on him that-away—but I almost had ter do it."

"Goodness but you're a brave man," I heard the woman say, and then in characteristic humility the war-scarred hero piped:

"Brave nawthin. Didn't he break inter your post-office? I almost had to whip him, 'cause after we come in ter see what the racket were, you was standin' in th' door so I couldn't git out. And there I was an' there he was, and some one had ter get licked and it was almost me."

Honoring the Hero.

The next day we had to invent some way of doing honor to the hero. We couldn't have a parade that day, for one of those Arizona sand-storms was cavorting around the place, so the town population held a meeting over in the box-car station, and, by a unanimous vote on the part of the agent and myself, we decided that the hero should be rewarded.

Heretofore his sole occupation seemed to be taking care of Jed Latroupe's livery barn and hanging around the post-office. It was easy to see that a general foreman had to have a chief clerk—so easy to see that they could see it clear from Albuquerque, and had already provided $45 from the monthly revenue of the road for the compensation.

As the station-agent had to stay in hearing of the telegraph instrument, I was appoined a committee to call at the post-office and inform Almost that, as a reward for heroism, he would be allowed to work a month for $45 and after that more months if he liked it.

Getting Protection.

It was also agreed that for the safety of the public, Maggie Mahorney should be requested to lock the cannon in the safe every night, along with the dollar's worth of postage-stamps.

It just happened that a pusher engine came in about that time, and the United States marshal drove in to take his prisoner home. I got them all together and it was quite a respectable committee that waited on Almost that morning.

After showing the bunch that I was there with the genuine oratory, I told Almost we had decided that he should be general foreman's chief clerk at a salary of forty-five semolians per month. We waited to hear his eloquent reply.

He made a noise like a long silence. That side-track smile of his spread out until it looked more like a double tracked main line, and those freckles which were not hidden by the black and blue spots, concealed themselves behind an unnatural red.

After the ceremony, he came around to me for instructions. I took him down to the pusher engine, introduced him to the shaker bar, clinker rake and ash hoe, showed him how to get under the fire-pan without taking off a driving-wheel—and he went to work.

Getting the Grates Clean.

A couple of hours later, I came back to see how he was getting along. I'm not sure but I think he went over those grates with a tooth-brush and a bottle of tooth wash. You could have climbed into the fire-box or ash-pan with a dress suit on without getting a black mark on your boiled shirt.

After the inspection, I told him that he would some day be president of the road, but that didn't chase the troubled expression off his rust-colored face.

"Mr. Thomas," he says, as I was starting away. "Could two folks live on $45 a month—if one of 'em was the postmistress?"

"Almost," I replied, for that was the nearest to the truth I could come at that hour of the day. "But a fireman makes as much as three times that much," I added, on second thought, "and you'll be a fireman some day."

And I walked away.

In the next story about Almost, which will appear in our April issue, certain complications arise whereby the general foreman quits and the chief clerk strikes.

PET NAMES FOR TRAINS.

The "Cripple Special," the "Red Cross Special," the "Cheese Train," the "Bum Two," and Other Pet and Particular Appellations.

RAILROAD men on some roads have a way of giving pet names to their trains. For example, a new freight-train was recently placed on the New York Central running between Syracuse and Albany. This train has been dubbed "The Red Cross Special," or the "Cripple Special," because its business is to pick up all the crippled cars along the line and take them to the repairing shop at Albany.

It is usual to have a particular train to haul the crippled cars, for, obviously, it would not do to have a fast freight, or many of the other freights do this service. It is deemed good business to have one train attend to this matter. The "Red Cross" hauls other cars besides the cripples.

The men on the New York Central have other names for their trains. The "Morning Glory" is a train which leaves Albany very early in the morning. The "Mohawk" is a freight which runs from New York to Albany without stopping, and then it begins to drop cars along the Mohawk Valley.

"Moonlight" is an Adirondack summer freight running to Saranac Lake and Lake Placid, starting out from Utica at midnight. "Bum Two" receives its name for two reasons. The symbol of this train is BM—2, besides it has a lot of shifting to do, stopping along the way, and a lot of cut-up work to do. Trainmen do not like to handle it, and for this reason, as well as on account of the symbol, it got the name of "Bum Two."

The "Cheese Train" is a freight which leaves Utica in the morning and stops along the dairying sections of the Mohawk Valley at Herkimer and Little Falls, collecting the cars loaded with cheese.

The "Turkey Special" is an annual express which starts at the St. Lawrence River and runs down through Central New York, collecting turkeys and other fowl for the Thanksgiving trade.

The "Midnight Drop" is a freight which runs out of Albany and drops cars at various stations up the valley.

"U. A. 8" is called the "Fancy Special," because it makes a fast run from Syracuse to Albany in the autumn, carrying fruit. Trainmen like to run this special, for they can make a good wage in a few hours and without any shunting.

The officials know their trains by symbols, but the men know them by pet names as well as by symbols, and the names are always significant.—E. A. S.

PRESIDENT TAFT'S RAILROAD MESSAGE.

IN his special message to Congress on January 7, President Taft recommended the following amendments to the interstate commerce act governing railroads:

A special commerce court.

That the Department of Justice conduct all prosecutions and defenses growing out of the interstate commerce law.

That traffic agreements subject to the supervision of the Interstate Commerce Commission be authorized.

That railroads be compelled to quote rates in writing on request.

That the Interstate Commerce Commission be authorized to institute causes on its own motion.

That classifications be subject to approval by the Interstate Commerce Commission.

That the Interstate Commerce Commission be empowered to suspend a proposed increased rate for sixty days, pending investigation.

That shippers be authorized to route shipments subject to supervision of the commission.

That railroads be prohibited from acquiring stock in a competing line of which they do not already possess control.

That all stock and bond issues be made subject to approval of the Interstate Commerce Commission.

That the commission be empowered to compel uniform adoption of safety appliances.

That plaintiffs under the employers' liability law be permitted to bring suit wherever service can be had.

THE FIGHT AT BATTLE DRAW.

BY EARLE C. WIGHT.

How the Heat of a Smoldering Bitterness Flared Into a Passionate Flame of Revenge.

WE had been talking about murder and sudden death. Personal experiences gathered before the kid-glove period in the West, when every man was his own judge. Whether or not he was the executioner depended upon his speed in drawing.

"Do any of you happen to know how this branch of the C. and A. acquired its name?" asked the general manager, addressing no one in particular. The rest of the party kept quiet, rather afraid of displaying their ignorance about a matter of which they had never thought, and not inclined to hazard a guess before so august a person.

Only the division engineer ventured the opinion that he had heard rumors from some of the old ranchers concerning a particularly vicious mill during the early construction days, which had resulted in christening the valley through which the branch ran Battle Draw. Then, whether because his knowledge really was limited, or because he feared to interrupt the story he knew was coming, he lapsed into silence.

"The ranchers are right," agreed the general manager; "it was a particularly vicious mill. It has been a long time ago now; all of you were probably in short trousers at the time—that is, all except Byrd here, who was in dresses, and Whitley, who was present, and will no doubt correct me if I make a mistake. I'll tell you about it if you like." We nodded assent, and he leaned back on the soap-box, resting his head on one of the rough logs which formed part of the wall of the cabin.

I looked at Whitley curiously, the man the general manager had mentioned as being present, wondering what part this silent, taciturn man could have taken in the story we were about to hear. Not a kindly part, if his face and reputation were evidence, and nothing in his conduct since he had been among us was likely to cause a more favorable opinion. Harsh and domineering, his hold over his men was entirely through fear.

Officially, he was Calhoun's private secretary; but that was only a blind. Really, he was his right-hand man, drawing a salary in proportion. I know this, because a friend of mine in the cashier's office told me his salary was fifteen thousand a year. A big salary for a secretary to a general manager, but then the general manager was no more what his title implied than was the secretary.

It had seemed a little strange when Whitley, on this rough-and-tumble inspection tour, had guessed to a foot the fall of Battle Creek, and, later, a sudden shower sending us to cover, the manager led with unerring steps to the tumble-down cabin. But the one we had credited to a clever guess, the other to a lucky chance for which we were duly grateful.

The private secretary scowled in the general manager's direction. "I wouldn't tell that story," he remarked softly. "Better let sleeping dogs lie." The interruption went unnoticed. It is doubtful if the general manager even heard it, busily lighting a black cigar.

"It was just after I came from Mexico," he began; "some time in the early seventies, if my memory serves me. We had completed the Yucatan and Guadalajara extension, the work taking us from an elevation of seven thousand feet to be-

low sea-level through as dismal a swamp as a mosquito ever called home.

"The result was that, after I reached Denver on my way East, I was taken with a severe attack of malaria. It shook and froze and burned me until I was little more than a living skeleton. Another man could have been tucked very comfortably inside my clothes without crowding me very much. It was ridiculous the way they flapped about me every time I struck a street corner where there was a current of air.

"But that was later, though. For the first two months I merely laid in bed, absorbing calomel and quinin in such quantities that I won't test your credulity by stating that before it was over the doctors gave up measuring the doses by grains and went to handfuls.

"'How is Mr. Calhoun to-day?' I heard one of the physicians ask a nurse.

"'A little better, I think,' she answered; 'he only shook two bricks from the left-tower chimney last night as against five the night before.'

"'Cut the doses, then,' directed the doctor. 'Make it a quart of quinin and a pint of calomel every hour.' That was the way it seemed to me, anyhow.

"When they did finally discharge me cured, I found myself in rather a bad way; physically weak and so poorly off financially that it was necessary to abandon my trip home and find some kind of work. I found it at last in the office of the D. and R. B.

"'Hum!' said the chief clerk, to whom I applied for a job. 'You look more fitted for a side-show than an engineering corps.' I took a long breath and tried to fill out my clothes, but they only bellied and flapped in the draft from a fan he had on his desk. 'What's the trouble?' he asked; 'have you stolen another man's suit, or are you half of the Siamese twins?' I explained the circumstances and showed him my letters.

"DIDN'T THEY TELL YOU AT THE OFFICE THAT ANOTHER MAN HAD BEEN SENT AHEAD OF YOU?"

"'We might use you,' he conceded, 'always provided you reach camp in one piece.' I assured him I could hang together that long.

"'Here'—he went on picking up one of the letters—'is one which says you are a good transitman. We happen to be in need of such, as the present one is hardly satisfactory. The position will pay ninety a month. How does that strike you?'

"'When do I start?' I said, eager to close the bargain. He led me to a map of Colorado, hanging on the wall. 'Now, here,' indicating with a blue pencil, 'is Denver. This spot is Pagosa Springs. How long will it take you to reach it?' I calculated the distance with my eye, noting the roughness of the country as compared with my own feeble condition.

"'Three weeks,' I hazarded.

"'Good!' he said; 'your pay starts now. To-morrow you will find a horse and pack-mule at Goodwin's corral. Come here at ten for your last instructions.'

"Just twenty days later my horse was picking his way carefully along the top of a narrow ridge. Sam, the mule, tugged now and then at the lead rope, tempted from the path of duty by a patch of green. Behind me lay miles of mountain and valley, just beginning to clothe themselves in summer attire. In the heads of the draws faint patches of damp earth showed where winter had made a last, desperate stand.

"AND THEY DO SAY HE IS GOING TO BE CANNED."

"I was beginning to get a little worried, for, according to my calculations, I was close to where the party should be. A preliminary survey is a difficult thing to miss in a wooded country where the cutting is ten feet wide; but I had crossed bare valleys and flats where the only indications would be trampled grass and an occasional stake. Luck was with me, however, for very shortly I found it—a wide swath cut in the brush and small timber half-way up a heavily covered hillside.

"My horse stumbled over a blue-keeled stake marked 1725. As they had told me in Denver that I should probably

find the camp close to the 1800 mark, I was by now within two miles of my destination. A half-hour's traveling along the line brought me to headquarters, six white tents pitched in the head of a draw beside a small stream. Not a very luxurious outfit, but, after three weeks of constant riding and sleeping on the ground, they seemed the height of civilization.

"The place seemed deserted. Only a thin curl of smoke from the cook-shack, set a little apart, indicated the presence of men. I called several times before any one answered; then the flap of the largest tent was thrown aside, and a tall, flat-backed young fellow came out.

"There are some people whom you dislike instinctively at first, for no apparent reason that you could explain to yourself. You dislike them, that is enough. In this case the feeling seemed mutual, for he pulled his hat low on his head and stood scowling at me from beneath the brim.

"'Well, what do you want?' he said finally.

"The tone didn't exactly suit me, but I let it pass.

"'I'm looking for the locating engineer,' I answered mildly.

"'Well,' he repeated impatiently.

"So this was the man I was to work under. Things looked squally for me. If he continued in this attitude, I could see where they would need another transit-man very shortly. I handed him the letter they had armed me with before setting out.

"Here I had the first suspicion that everything was not as it should be. Instead of opening it at once, he hesitated, looked at me, then down at the letter in his hand, and, with the air of a man who has gone too far to draw back, tore it open. He read it slowly, tearing it into small pieces which he ground into the earth. I took this for the end of the interview, and threw one leg over the pommel preparatory to sliding from the saddle.

"'One minute,' he halted me. 'I'm sorry, but you're too late.'

"'Too late for what?' I asked blankly.

"'Too late for the job. It's already been filled. Didn't they tell you at the office that another man had been sent ahead of you?'

"They hadn't said anything about it, and I told him so frankly. 'Moreover,' I added warmly, 'the man who played a trick like that deserved to herd sheep.' At that time this was equivalent to a pretty strong oath.

"'I suppose,' he said indifferently, 'they wanted to be sure one of you would reach here.'

"'Then, there is nothing for me to do but—'

"'To go back. And I would advise,' he continued, looking at the sun, 'that you start at once if you want to reach the divide by sundown.'

"I ignored the hint, and tumbled off. The disappointment was keen, for I had counted on at least five months'-work, and Denver was barren of jobs. But, knocking around, a man gets hardened to ill luck, so I tried to take it philosophically.

"'With your permission, then,' I said, 'I'll get a couple of good meals and start back in the morning.'

"His eyes narrowed a trifle. 'As far as a meal is concerned, you're welcome to that; but we haven't a spare cot in camp.'

"It just dawned upon me that he was trying to run me off; that, for some reason, he was determined I should not spend the night with the party. Ordinarily, I would have been only too glad to have left a place where it had been so clearly shown I was unwelcome; but for the sake of three decent meals and a night under canvas I was willing to intrude.

"'The cot won't matter,' I said casually. 'It's the breakfast that appeals to me.'

"'There will be no breakfast for you,' he said grimly. 'As you seem rather hard of comprehension, I'll put it frankly. You are not wanted here to-night. If you're hungry, the cook will rustle something for you, though,' he added, as if to soften the bluntness of his refusal.

"On the way to the cook-shack I tried to make up my mind what was the best course to pursue. Many things had struck me as peculiar about my host. The hesitancy about opening my letter was one; its destruction was another; and, strangest of all, his ill-concealed desire to be rid of my presence. To a few men in a lonely place the advent of a stranger is an occurrence, and it is a very peculiar camp that would not make him welcome.

"Either that, or there was something crooked going on. It was really none of my business if the company was being cheated, after the way it had treated me, but I was curious. The experience of being literally forced out of camp was unique, and I determined, if it were possible, to find out the reason. With this idea in view, I ate so heartily and talked so much that my inhospitable host—he refused to allow me out of his sight—began to grow restless.

"On my suggesting that my animals could stand some food and water, he volunteered to attend to it, warning me as he left that it was getting late. When he was well out of hearing I turned my attention to the cook.

"'Nice, cheerful fellow, that Canby,' I remarked.

"'Who? Him? That ain't Canby.'

"'But that's the name they gave me in Denver,' I objected.

"'Son, you're in the right church, but the wrong pew. Canby's an oldish man with gray whiskers. Do you think I'd mistake them two after living with them for two months?'

"'Then, who is *he?*'

"The cook lowered his voice confidentially. 'That is the transitman, and they do say he is going to be canned.'

"That one sentence gave me the key to the whole situation. It was so plain now that I wondered at not seeing it before. All the circumstances pointed to one thing, and that had such a nasty look that it was hard to believe a white man was capable of it. The way it figured out was this:

"The transitman knew he was to be discharged. Through living with the locating engineer, which of course he did—that being camp etiquette—he had managed to find out about the time I would arrive. The rest was easy. He had only to feign some excuse for staying in camp, and, by passing himself off as the chief, turn me away with the story of a new man who had antedated my arrival.

"He was smart enough to know that my story would never be believed at the office. They would put it down that I had lost my way and had invented this yarn to excuse myself. The cook might never mention the fact that he had entertained a visitor, or if he did I could be passed off as a wandering prospector who had grown tired of his own cooking.

"There was one link which was not quite connected. After that was joined, the chain would be complete.

"'Perhaps it would be a good thing for him if he did,' I said, replying to the cook. 'A sick man has no right to be out in the open like this. He ought to see a doctor.'

"The cook grunted. 'Sick nothin'. He eats like a hoss. It's my opinion that he's layin' down because he knows what's comin'.'

"The evidence was all in. I thanked the cook, and told him I'd probably see him again. A wave of heat blew in my face as I entered the largest tent. The interior was just the same as a thousand I have seen under the same conditions. Two smooth pine boards resting on trestles and covered with maps, instruments, sacks of tobacco, and a gun. In the back corners were two cots covered with Navajo blankets. A rope was stretched under the ridge-pole, from which were suspended some blue shirts and a pair of khaki trousers.

"My host was lying on one of the cots, reading. He looked up and smiled pleasantly when he saw me.

"'Going?' he asked.

"'Staying,' I answered, seating myself on the vacant cot.

"He was on his feet in an instant. 'Have you so soon forgotten what I told you? No man stays here at night without my permission.'

"I rolled a cigarette slowly before answering. Beads of perspiration bedewed his forehead before the last grain of tobacco was tucked in its place. He didn't dare say anything, for fear of giving himself away, for while he probably feared the worst, he could not tell just how much I had guessed.

"I threw the match away and faced him squarely. 'Do you know,' I said, 'I've a great desire to know whom I'm addressing. Never mind that,' I went on, as he started to tell his candid opinion of my ancestors; 'the question now is, what cards do you hold? You are called. What have you?'

"'A full hand of clubs,' he said, showing he had a sense of humor. 'Out in front is a good place for a show-down.'

"I was agreeable, and we had the showdown, with the cook for referee. When it was over, and he was able, we shook hands and patched up a story to explain his battered face."

"So that was how this came to be named Battle Draw?" said Byrd.

"Not a bit of it. We haven't come to that part yet, eh, Whitley?"

The private secretary shook his head gloomily. "At this rate you will have them all thinking I was the scoundrel who tried to get your job. My back is flat, and I was with you then."

"Nonsense, man," laughed the general manager, "this is only a story to kill time until the rain stops. But to go on. A month passed, and we had worked nearly down to the mouth of the valley, perhaps a mile from where we are now. There was a small settlement here then—a dozen houses and a couple of saloons. The one we're in now was the headquarters of the superintendent, rather larger and better built than the others.

"Their excuse for being was the Silver Slipper Mine, which could be easily seen from here if the rain would let up. Like everything else, it had its day, but has long since played out.

"The man who tried to trick me was still with us, working sometimes with the leverman, helping the draftsman, or with our party, as occasion arose. We had never become very friendly, but, thrown together as we were at work, at play and meals, we had adopted an armed truce for the sake of the peace of the camp.

"NO MAN STAYS HERE AT NIGHT WITHOUT MY PERMISSION."

"He knew, and I knew, that the account was not closed; that something more decisive than a rough-and-tumble was needed to balance the books. In the meantime we waited.

"At noon one day a guide rode up with a bagful of mail. We fell on it eagerly, for mail only arrived once a month.

"'What do you think of this?' asked Canby, presently looking up from the letter he was reading. 'The office writes that Sid Lyons is camping on our trail. He is working for the Overland, you know, who likewise are thinking of building into Pagosa. Isn't that the deuce?

They also warn us to look out for his crowd.'

"'Who is he?' I asked, for the name had been mentioned several times in the same tone the Russians might have spoken of Napoleon.

"'The biggest, meanest proposition in the engineering business,' said Canby. 'He is the raven of war, the harbinger of trouble. If a nice, hot fight took place without his being there, he'd weep. We might as well quit if it comes.'

"I could hardly believe my ears. Nine husky, young Americans—nine and a half counting the cook—afraid of a name. The others took it as a matter of course. If Lyons came, they quit. Their acceptance of his fighting abilities was so natural that I should have been warned. Instead I rushed in.

"'There is one thing we might do,' I suggested, 'we might run him off.'

"The boys hooted. Evidently I had displayed vast ignorance, which amused my companions. I could feel the color surging into my face at their jeers. One man's, the only one in the crowd whose laughter I minded, sounded a little contemptuous.

"'If he will only stay away another month we might finish,' said Canby.

"'If he comes before then,' I remarked looking hard at the man whose place I had taken, 'I'll see that he leaves our work alone.'

"No one said anything more, for they saw I was angry, but there was a pleased smile on the face of the man who had baited me. The opportunity for which he had waited had come and he had seized it.

"Lyons didn't wait for us to finish. A week later, on going back to check some angles we found every stake on the line pulled up. When two surveyors are fighting each other this is the usual method of proclaiming war.

"We had our maps, of course, but the State laws say the survey must be complete before they can be filed, and without the stakes actually in the ground the maps were useless. Paralleling ours was another line with a full party at work. It was not difficult to guess the culprits.

"'All off for camp,' sang out the chief. I looked at him in astonishment.

"'Well,' he said flushing, 'there is no good in fighting Lyons.'

"I pulled his gun from his holster. Mine interfered with the needle of the transit, so I didn't carry it.

"'You're too timid a man,' I said, 'to carry such a dangerous weapon. Go on with your work and let me attend to this matter.'

"A rodman on the new line told me their chief was at the settlement. Halfway there the ex-transitman overtook me.

"'Thought I'd see you through,' he said briefly, falling into step. Then and there I buried all hard feeling. What he had done before was forgotten.

"He was man enough to overlook our personal differences in the new crisis which confronted us. Also, he was the only one of the boys with courage to join me. After I saw our man I was better able to appreciate that courage, for he wasn't walking into it blindly the way I was.

"We found Lyons sitting on the steps of one of these shanties he had taken for an office. He was the biggest fighting man I've ever seen. My heart failed me for a moment, he was so formidable.

"Under his shirt his chunky shoulders—he was over six feet one, so you can guess how broad he was to make him look that compact—were creased and ribbed with muscles. His neck was set so close to his body that an inch ribbon would have choked him to death.

"With all his size there wasn't a pound of fat on him. When he walked it was right on his toes, as though he had springs in his feet, so I knew he was quick and not clumsy. I began to feel sorry for myself, but it was too late then.

"'Good evening,' I said politely. It was easy to be polite to him.

"He didn't answer me, continuing to study the profile in his hands, so I sat down and rolled a cigarette. When he had finished his calculation he looked up.

"'Well, sonny, what can I do for you?'

"'Oh,' I said, trying to be sarcastic, 'I just came here to admire your form. Don't bother to talk to me.'

"'How are your stakes this morning?' he came back.

"'I don't know,' I answered truthfully, 'I haven't seen them.'

"He grinned at that. 'Is that what you came to see me about?'

"I said it was, and added what I thought of a man who played the game so unfairly.

MY HAND WENT THUDDING AGAINST SOMETHING THAT CRACKLED SHARPLY.

"'What would you have me do,' he asked, 'put them back?'

"'That would be the decent thing,' I said, 'but I hardly expect you to do it.'

"'Then what do you expect?'

"'To keep you away from our line. We can repair the damage you have already done, but this is to warn you not to repeat it.'

"'And if I do?' he sneered.

"'There are two things I might do,' I said slowly, 'I might shoot you as you deserve, or give you a good thrashing, which would be letting you off easy.'

"'Hey, Jack,' he shouted to one of a group of miners, 'here's a young buck who wants a fight.' They came crowding over, laughing at the prospect.

"'When would you like to be spanked,' he asked, 'now or in a year or two when you are fully grown?'

"'This evening,' I retorted, 'now.'

"He was a little taken back by my prompt acceptance. Even then I think he thought it all a bluff.

"'Suit yourself,' he said. 'Will some one hold my coat?'

"My companion came forward, taking

both our coats, and I didn't see him again until the trouble was over. It made me a little shaky being left alone with that big brute and those strangers.

"The feeling did not last long, for immediately I was kept busy trying to dodge the vicious blows which Lyons aimed at me, any one of which, had it landed where he intended, would have ended the fight. He was like a cat on his feet, and with his tremendous strength was the best man I ever met.

"Every time a blow landed it left the marks of his clenched hand outlined in red on my skin. Once he hit so hard that he lifted me clear off my feet. Close to two hundred pounds I weighed too.

"The realization came to me very shortly that he was more than my equal, and that only luck stood between me and a bad beating. So far it had favored me; he was unable to break through my guard and reach my face.

"By the end of five minutes he had punched me into pretty bad shape. It was agony to breathe, while my knees felt as though they would give way every minute. He saw it, and came after me all the harder. There was no time called; it was fight, fight, fight, with the miners cheering us on.

"I could only block and stall now, waiting and hoping for my one chance. Twice it came, the first time when he tripped and nearly fell, but my blow went high, nearly breaking my hand against

THEN—THE SHARP, METALLIC REPORT OF A PISTOL!

his head. The second time he struck too quick, overreaching himself, leaving a narrow opening to his chin.

"I struck with the desperate knowledge that this was my last chance. My hand went thudding against some thing that crackled sharply, and Lyons went toppling over backward.

"He rose before any one could help him, hoarsely demanding his coat. One of the miners handed it to him.

"At the same time I felt something thrust into my hand.

"'Shoot quick,' the person behind me whispered. Mechanically I raised the gun and fired twice. Through the smoke I saw Lyons's gun, the cylinder revolving rapidly in the light of the setting sun, but no report answered mine. Slowly his hand fell to his side and again he tumbled heavily to the ground.

"That is all of the story I think. We finished our survey without interference from the other party. The miners who had witnessed the fight gave the name Battle Creek to their settlement, and so it went in on our maps.

"By the way, Jim, there is one thing that has always puzzled me." The general manager leaned forward, his cigar glowing redly against the grayish background.

"That gun was not my own. You ought to be able to explain it. You were there."

An inarticulate sound caused him to pause. "I mean," he went on hastily, "that you were with the party. That you were in probably a better position to know the details than I."

Instead of answering, Whitley rose and groped his way to the door, where he stood a long time looking into the drizzling gloom. It was one of those situations when to speak is a mistake, to keep silent is worse. Only the drip of falling water where the rain had found a hole in the rotting roof broke the quiet.

The general manager's face was a picture of regret and pain as he watched the motionless back of his old friend. When the monotonous sound of splashing drops threatened to become unbearable, he rose stiffly, seating himself again as Whitley turned around. With one hand concealed in his pocket, Whitley stepped swiftly back to his old place.

"Calhoun," he said, and there was a note in his voice which kept us quiet, "the event you have just told took place over thirty years ago and I've waited just that long for you to do what you have done. When you began I warned you to let sleeping dogs lie. Later, I gave you a chance to leave me out.

"Had you taken heed there would be no necessity for what is going to happen. But you didn't. Now, thanks to your blunders, all these men know it was I who tried to save my job by lying to you. That it was I whom you thrashed that day. And they have probably guessed likewise that I changed the guns, abstracting the cartridges from the wrong one!"

"But Jim—"

The secretary's words beat down the protest. "You've had your say, it's my turn now. Don't you know, you fool, that there could be only two reasons for my continued service to you—love or hate. Did you imagine it was the former?" He laughed wildly. "Over thirty years' accumulation of bitterness for this one moment—but, by Heaven, it's worth it!"

Then—the sharp, metallic report of a pistol! Like a shadow Whitley slipped past the hands reached out for him. The general manager's big body seemed to shrink, the black stump of his cigar fell from his fingers, and he slid forward into the fire.

Whitley was never brought to justice, but if you ever come across a tall, flat-backed man, with a face all iron and stone, eating his heart out in some God-forsaken place, you might tell him what I've told you.

WHEN I'M A MAN.

BY LESLIE CURTIS.

Written for "The Railroad Man's Magazine."

I'LL be an engineer, like pa,
When I'm a man.
Gee! He makes her whiz along the track—
You bet he can!
But onct there wuz an awful wreck,
When I'se a kid,
An' hurt pa somewhere in the slats—
That's what it did.

Pa lets me ride with him sometimes,
On Saturdays.
I'm mighty glad I ain't like Tom or Joe
Or Billy Hayes.
Their dads ain't workin' on the road
The same as mine,
An' they don't git to ride like me—
Not any time!

Onct when we wuz a standin' still,
Two gals came by.
Pa says, "Jest pull the bell-rope, Tim, and watch
Them critters fly."
Glory! You orter heard them gals
An' seen 'em run!
They jest picked up their skirts an' got!
'Twas howlin' fun!

Pa most fell out the cab, jest cause
He laughed so hard.
But onct we had a heap more fun than that
Down in the yard.
There wuz a mule what balked right on the track—
He moved, you bet!
Pa whistled, an' I guess that mule
Is runnin' yet!

Ma's always worryin' about me,
Cuz she's afraid.
But then, it ain't her fault, for that's the way
All gals wuz made.
But pa ain't 'fraid of nothin' 't all—
Ain't got no fear.
An' you bet, when I'm big, I'll be
An engineer.

WITHOUT LIGHTS.

BY J. AUBREY TYSON,

Author of "The Man of Straw," "A Railway Pizarro," "The Man Who Lost Himself," etc.

A Man Runs Blindfolded On a Strange Track and Against the Semaphores.

CHAPTER I.

A Shattered Hope.

"I'M very sorry, sir, but Mr. Warrington is engaged and can see no one this morning."

The private secretary of Andrew Warrington, the general manager of the Chicago, St. Louis and Western Railroad, glanced at a card bearing the name "Frederick Erskine." The visitor was a stalwart, gray-clad young fellow, with dark, clean-cut features.

"I've come seven hundred miles to see him," he explained.

"Did Mr. Warrington ask you to call?" the private secretary asked.

"Yes," replied the other. "Mr. Warrington, writing to me last week, told me to call on him at my earliest convenience. The letter came to my hands two days ago. I arrived in the city this morning."

The private secretary frowned slightly, and hesitated.

"Is it a matter of importance?" he asked.

"To me it is a matter of very considerable importance," Erskine answered, with a smile.

"I will take your card to Mr. Warrington," Gerrick said.

The private secretary crossed the room with reluctant steps and entered an inner apartment. At a large, flat-topped desk, sat Andrew Warrington, the general manager of the road. Slightly above medium height, he was sturdily built and about fifty-five years of age. His hair and mustache were gray, and his neck and hands were large and muscular.

His face was broad and resolute, but on it, this morning, had settled a careworn expression, and his eyes were bloodshot. He gripped the arms of his chair, and as he glanced at Gerrick, he frowned irritably.

"What is it, Tom?" he demanded shortly. "A card! Confound it, didn't I tell you that I would see no one this morning?"

"Yes, sir, but—"

"Who is it?"

"Frederick Erskine, who says he came here at your request."

Warrington scowled, hesitated, then took the card which Gerrick held out to him. He looked at it thoughtfully for a moment. Motioning abruptly toward a wire basket, he addressed Gerrick.

"There's a letter there, Tom—a letter from old Sam Erskine, one of our locomotive engineers. Find it for me, please."

Gerrick found the paper and laid it on the desk.

"Read it," directed the general manager.

Gerrick read:

> FRIEND ANDY—It ain't in my mind to spring no new bother on you, after all the kind things you have done for me and mine, but four years ago, when my boy Fred went into the Altoona shops, after you had helped me to put him through Columbia University, you made me promise that when he left Altoona I would send him to you so as you could look him over. Well, Andy, he's gone through the whole Altoona course, with colors flying, and the folks down there

has writ to me that all of them is proud of him.

For forty years the old C., S. L. and W. has been good enough for me, so I'm sending the boy round to you. Look him over, Andy, and if he sizes up to you half as big as he looks to me, like as not them Pennsylvania fellers will have to snoop a little further for a future president of their company.

Well, anyhow, Andy, it's up to you. Fred is still hanging round Altoona, doing a special stunt or two, and any time you want to see him all you will have to do is just to drop him a line. The lad is honest and earnest, and is so up in the higher branches of railroading that he just naturally ought to be ashamed of a daddy that never got no further along than the cab of a locomotive, while his old fireman, Andy Warrington, was getting to be the general manager of the road. But the boy is just fool enough to be as proud of me as I am of him, and it don't matter how small a berth you shove him into, he'll make his way and be a credit to you and

Yours truly,

SAM ERSKINE.

Andrew Warrington thrust the letter back on the desk, and, again gripping the arms of his chair, turned thoughtfully toward one of the windows. Gerrick continued to regard him speculatively.

"Tell him to come in," the general manager said grumpily.

Gerrick nodded and went out. In a moment the door opened again, and the visitor entered. He moved a few paces in the direction of the man he saw seated at the desk.

It was the first time that the young man had seen this old friend of his father's, and it was scarcely more than natural that he should look for some manifestation of cordiality on the part of one whom he long had regarded as a benefactor. Strangely enough, however, the general manager, turning slowly toward him, looked at him dully, and without speaking.

The young man stopped, bowed, and glanced inquiringly at the sturdy figure and pale, careworn face of the man at the desk.

"Mr. Warrington, I believe," said Erskine, smiling slightly.

The general manager passed a hand over his eyes.

"Yes—yes," he answered absently; then, after a pause, he added: "You are Sam Erskine's boy?"

"Yes, sir," replied the stalwart six-footer easily, "and first of all I want to thank you for all you have done for me."

Warrington shook his head gravely. "You have little to thank me for, I am afraid," he said with a sigh. "The only persons who set a price on their advice are lawyers and physicians. The rest of us give it more cheerfully than we accept it. Such financial aid as I have given to your father was less than I offered, and he has repaid me dollar for dollar. My old friend would have done better, perhaps, had he refrained from mentioning the subject to you."

The young man smiled, shook his head incredulously and advanced with his right hand extended. "Permit me to thank you now," he said.

The general manager half rose from his chair and grasped the hand that his visitor held out to him. "Sit down," Warrington said perfunctorily.

Erskine nodded and seated himself on a chair near the desk.

"And so you are done at Altoona," Warrington muttered, as, leaning forward, he rested his elbows on the arms of his chair.

"Yes. I finished the course six weeks ago."

The general manager's lips were compressed as he gazed meditatively at the old man's letter.

"Your father tells me that you want to enter the service of the C., S. L. and W.," said Warrington at last.

The young man smiled. "Yes," he answered.

For a minute the general manager, gazing moodily at his desk, was silent, then speaking deliberately, he said:

"Well, my boy, I'm sorry, but in the service of this company there is no post that I can offer you."

CHAPTER II.

Working in the Dark.

AS the general manager spoke, Fred Erskine started, flushed, and looked at him incredulously.

Andrew Warrington, who had entered the employ of the C., S. L. and W. as a fireman on a locomotive, more than thirty years before, now was regarded as one of the most able railroad men in the United States. He had occupied the post of general manager for twelve years, and for several months it had been rumored that as a result of a series of differences between him and Henry Burbridge, the president of the company, the directors were disposed to compel Burbridge to resign, and to make Warrington his successor.

Some of this gossip had reached the ears of Fred Erskine prior to his visit to Chicago, and had done much to encourage his belief that his advancement in the service of the company in which this old friend of his father's was so powerful was likely to be much more rapid than he would find it elsewhere.

Old Sam Erskine had been a loyal employee of the C., S. L. and W. for forty years, and it had been his sole ambition to give to his only son an education that would enable him to make his way upward as Andrew Warrington had done. Warrington, as has been seen, had afforded material aid in this direction, and it was in accordance with the advice of the general manager that Erskine had applied for admission to the Altoona shops after he had completed a scientific course at Columbia University.

To most persons, other than railroad men, Altoona is nothing more than a smoky town in Pennsylvania, in which are located the repair and construction shops and several important offices of the Pennsylvania Railroad. To the railroad man of high or low degree, however, it stands for all that West Point means to the officers and enlisted men of the United States Army, or all that the naval academy at Annapolis represents to the navy. It is the world's greatest training school for railway officials, and its influence is world-wide.

In the course of the long pause that succeeded Warrington's statement, the expression of incredulity that had settled on Erskine's face gave place to one of wonder and chagrin. Warrington's face was pale and grim as he continued to gaze at the letter that lay before him on the desk.

Erskine was the first to break the silence. Nodding resignedly, he said quietly:

"I am very sorry to hear you say so, sir. What your reasons may be for this decision, I do not know, of course. In view of all that you have done for my father and for me, however, I hope that neither my father nor myself has done anything to displease you."

"On the contrary, I regard my relations with your father, and, indirectly, with you, as among the more satisfactory of my experiences," replied the general manager moodily.

Erskine was trying to formulate some appropriate words of farewell when he suddenly became conscious of the fact that the general manager was eying him with a new expression of interest. After an approving glance over the tall, athletic figure of his visitor, Warrington critically studied the young man's face.

"Sit down," he said, for young Erskine had risen to go.

As Erskine seated himself again, the general manager leaned back in his chair and, gazing at his desk, slowly stroked his chin. The young man watched him curiously.

"Fred," Warrington went on abruptly, after a pause, "you made a pretty good run of it through college, I believe."

"Why, yes, sir—I did pretty well," faltered the young fellow.

"I have been more particularly informed concerning your work in Altoona, and on your performances there, I congratulate you with all my heart," Warrington went on. "There is only one thing that I hold against you."

"Indeed!" exclaimed Erskine, an expression of apprehension in his eyes.

"Yes. It is that you are Sam Erskine's son instead of mine."

The general manager, turning slowly to and fro in his swivel-chair, gazed thoughtfully at the floor as he continued:

"And yet, my boy, I think I can easily forgive you that, for you have in your veins the blood of one of the bravest and most honest men I have ever known."

Warrington nervously tapped on his desk with a penholder.

"When I say that in the service of this company there is no position that I can offer you, I speak the truth. At the

time I wrote to you, asking you to come to Chicago, I designed offering you a good position. Much has happened since then, however, and in place of the friend who was preparing to help you, you now find a discredited man whose career is about to end in disaster unless—"

An expression of blank astonishment came to Erskine's face, but in a moment it was gone.

"Unless," the general manager continued, leaning forward, "unless I can enlist in my personal service a man whom I can trust implicitly, and who possesses qualifications which will enable him to pursue, without exciting suspicion, a certain course of inquiry that may lead him into several departments of this railroad."

Warrington tossed the penholder back on his desk and drummed nervously on the arms of his chair as he went on:

"Until you entered this room just now, I was at a loss to know where to turn to find a man who was capable of meeting these requirements. It now occurs to me, however, that you possess the necessary qualifications. Your course at Altoona has familiarized you with various kinds of departmental work, and you have the additional advantage of being unknown to all the employees of this company except your father. In the course of your quest you probably will have no occasion to meet your father, and it will be in your interest, as well as mine, that you say nothing to him concerning the task which I am about to ask you to undertake."

"My relations with you are to be regarded as secret, then?" the young man asked.

"They must not be known to any person other than ourselves."

Erskine nodded, and leaned back in his chair. The general manager rose and locked the door.

"As briefly as possible I will describe to you the situation that now confronts me," he began. "Eleven months ago the Dunbar Construction Company, of Denver, deposited in the office of the treasurer of this company bonds valued at five hundred thousand dollars, which were to guarantee the performance of that company's contract to construct for us a branch line from Cardis to Redmount, in the State of Wyoming. That work is now almost complete, and in another month the Dunbar Company will, as a matter of course, make a demand upon us for the return of the bonds. You will see, therefore, what a predicament we are in, when I tell you that the bonds are no longer in our possession."

Erskine looked more intently at the careworn face before him.

"The bonds are lost?" he asked.

"Stolen," replied the general manager grimly. "As nearly as can be learned they disappeared from the vault of our company's treasurer about five days ago."

"Is any one under suspicion?"

"Yes."

"Some one employed in the treasurer's office?"

"Yes. The suspect is a young man who, living beyond his salary and the allowance made to him by his father, some months ago became involved in a series of unfortunate speculations. As a result of these speculations his father was compelled to pay nearly a quarter of a million dollars to the young man's creditors.

"The son failed to take to heart the lesson taught by his unfortunate experiences. Taking advantage of his restored credit, he again plunged into debt—this time as a common gambler. On the very day that this fact became known to his father the bonds were missed from the vault of the office in which he was employed, and the combination which controlled the lock of the vault was known to him.

"He protests that he is innocent, and thus far he has been allowed to continue to work in the office. Detectives have been put to work on the case, but—"

The general manager paused and looked meditatively out of one of the windows.

"But there are certain incidents in connection with the affair that have not been brought to their knowledge," he added. "If you will undertake the task, you will be better informed."

"Am I to understand, then, that I have to discover who it was took the missing bonds?" Erskine asked.

"You are to find the bonds and cause them to be returned to the vault," the general manager replied. "The bonds are all that I will require of you. So far as I am concerned, you have *carte blanche*

to get them by fair means or by foul, and I will give you all the aid that lies within my power to give.

"If you fail, it will be quite unnecessary for you to trouble me with any explanation of your failure. If you do get them, you are at perfect liberty to keep to yourself all knowledge of the means which you may find it necessary to employ. It is not essential that I be informed of the name of the thief. His identity will be entirely your affair—and his. Is this much clear to you?"

Erskine's face wore a puzzled expression, but it was without hesitation that he answered:

"Perfectly."

"And I hope that it will be equally clear to you that you must carefully guard the fact that you are acting as my representative in the matter," Warrington went on. "I will supply all funds that may be necessary, and if it should be found expedient to have you represent yourself as an employee of this company, from time to time, I will find means to have you do so. But, after midnight to-night, you are, under no circumstances, to ask me for advice concerning the manner in which you are to proceed.

"You must map out your own campaign, after you hear from me an account of those incidents concerning which the detectives have not been informed. You must regard those detectives as working against you, for if they, instead of you, recover the bonds, you will have failed in your quest. In view of the fact that these detectives report to, and receive instructions from, certain officials of this company, we may regard them as working in the light.

"You must be the man in the dark, depending only on your own resources, and making no report to any one. If you work into an embarrassing position, and find yourself in deep water, you must not call on me to aid you. You must swim or sink—alone."

Fred Erskine abstractedly placed his hat on his head; then, thrusting his hands into the pockets of his trousers, he rose and slowly paced to and fro. The general manager leaned back and clasped his hands over one knee and surveyed his visitor speculatively.

"You are giving me a pretty big order, Mr. Warrington," said the young man moodily.

"Pretty big," assented the general manager, with a nod.

"Would it not be better to entrust a matter of this nature to a professional detective?" Erskine asked.

"No," Warrington answered shortly. "The professional detective is too well trained in the betrayal of confidences to have a matter of this sort entrusted to his keeping. The manner in which you have acquitted yourself in college and at Altoona indicates that you have more than the average degree of intelligence. In addition to this, you have the eyes and chin of your father, and these are sufficient to assure me of your honesty and grit.

"Moreover, you will have a personal interest in the matter that no professional detective could feel. If you succeed, I shall become president of this road; and, next to your father, I will prove to be the best friend you have on earth. If you fail, another month will find me a ruined man, who will be unable to offer any sort of aid to the son of his old friend."

For some time both were silent; then Erskine spoke.

"You are putting it to me pretty strongly, Mr. Warrington," he said.

"If you hesitate, perhaps I can put it to you still more strongly," the general manager replied.

The young man, ceasing to pace the floor, stopped in front of Warrington, and looked at him curiously.

"Who is the man who is under suspicion?" he asked quietly.

There was a pause; then, in a low, hard voice, the general manager answered:

"Joe Warrington—my son!"

CHAPTER III.

Fred Takes a Job.

THE color fled from Fred Erskine's cheeks.

"Your son?" he faltered.

Warrington nodded, and his gaze fell.

"But he will clear himself—of course," the young man said.

"I hope so," Warrington replied; "but, whether he does this or not, the

package of bonds must be obtained by you, and thirty days must suffice for the accomplishment of the task. Thus far the knowledge of their loss is supposed to be restricted to four officials of this road, and the detectives who have been put to work on the case.

"How many detectives are engaged, I do not know, but I believe there are no more than three. One of them, however, is Glen Streyer, an exceptionally successful private detective, who has been specially engaged by Mr. Burbridge, the president of our company.

"Streyer seems to be acting independently of the others, who are regular railroad detectives, working under the direction of Mr. Stanwood, our treasurer, from whose office the bonds were taken. One other official than these I have mentioned is informed concerning the circumstances of the theft. This is Lewis Yarnell, our vice-president. With none of these, however, are you to have anything to do."

Erskine, removing his hat, sank into a chair and looked at Warrington dubiously.

"Then it is scarcely probable that I will have access to the treasurer's office?" he said.

"It is unnecessary that you should pursue any part of your investigation there," the general manager returned.

"But—"

"I have said that I would acquaint you with certain incidents, concerning which the detectives know nothing," Warrington explained. "The facts, as known to the detectives, are these: The bonds were issued by the South Wendham Electric Company, the Pan-American Trading Company, and the Fairfield Steel Corporation. All were contained in two black tin boxes, which were placed on one of the shelves of the vault.

"The boxes were found on the shelf, but their contents were gone. How the bonds were taken from the vault is still a mystery. The vault combination was known only to two men—Stanwood, our treasurer, and my son. It was Stanwood who discovered the loss, and he at once reported the matter to President Burbridge."

"The bonds are negotiable?"

"Yes."

"And their loss has not been reported to the companies by which the bonds were issued?"

"No; and I think it will not be difficult for you to understand why no such report has been made. Only as a last resort must publicity be given to the matter. One of two men was guilty either of deliberate theft, or of almost criminal negligence, in failing to keep the vault properly locked.

"Of these men, one was the treasurer of the company, and the other was the son of the company's general manager. More than this, it is, for many reasons, desirable that the Dunbar Company should not know of the loss, if it is in any way possible for us to recover them."

Erskine shook his head doubtfully.

"Under these circumstances the detectives are likely to have little outside help in their attempts to discover a possible transfer of the bonds," he said.

"True," replied Warrington. "The task will, indeed, be a difficult one, if they are honest enough to adhere to the letter of their instructions. Glen Streyer is crafty, however, and I do not regard it as at all improbable that, taking the bit between his teeth, he will invoke the aid of the companies that issued the bonds, without informing his employers of his action."

"And if Streyer recovers any, or all, of the bonds, he—"

"He will deliver them to Burbridge, in whose interests he is working. This is what we must prevent. The bonds must be returned to the safe without Burbridge's knowledge."

Again, Erskine rose and began to pace the floor. The expression of perplexity on his face was momentarily growing deeper.

"It seems to me, Mr. Warrington, that you are assuming that the bonds were indeed taken by your son?" he said thoughtfully.

The general manager cleared his throat and hesitated.

"My son denies that he took them, of course," Warrington answered dryly. Then, after another pause, he added: "But if Stanwood took them the result would be the same."

"The result would be the same?" repeated Erskine incredulously.

"Precisely," replied the general manager. "And now I will tell you of the incidents which the detectives are not taking under consideration. First, then, Burbridge would be ousted from the presidency of this road, and I would be elected as his successor at the next annual meeting of the stockholders, six months hence, if this unfortunate affair had not happened.

"If it is proved that my son did, indeed, take the bonds, I will he required to make good their value. I cannot do so. The result will be that I, a discredited man, will have to sever my relations with this company. Now, Stanwood is a mere tool of Burbridge's, and would fall with Burbridge. It was in accordance with a suggestion made by Stanwood that my son was made his assistant."

Erskine's face brightened. "Then it is possible that some sort of a job has been put up on your son by Burbridge and Stanwood?" he said.

"It is possible," Warrington assented. "But if this is so we will have to prove it, and in such a case we may be pretty sure that the bonds still are in the possession of the original thief. On the other hand, if my son took them they probably are in the hands of some other person to whom they have been given as security for a loan. It will be necessary, therefore, for you first to learn by whom the bonds were taken, then to find them and return them to the vault."

Erskine shook his head doubtfully. "It is difficult for me to know where to begin," he said. "Moreover, I can't quite see how my knowledge of railroading is going to help me."

"If the bonds were taken by Stanwood, you will have to work among certain of his fellow conspirators, who are employed in various departments of this company," the general manager explained. "That a conspiracy against me does exist there can be no doubt. If the thief was my own son, you probably will have to pursue another line of inquiry, and it is in connection with this that I will now tell you of the second phase of the affair of which the detectives are ignorant."

"Then it will be necessary for me to work also on the theory that the bonds were taken by your son?" Erskine asked.

"Certainly, if you think that by working out such a theory you can recover the bonds," Warrington replied, somewhat petulantly. "If you deem it expedient to take this view, it may be well for you to know that I have some reason to believe that a certain boon companion of my son's has become aware of the fact that the bonds have disappeared, and that my son is suspected. This fellow is Charles Montresor, an impecunious Englishman, who is a nephew and the heir of Lord Mordale, with whom he has quarreled.

"Montresor sometimes visits my daughter Louise, and it was to Louise that, the other evening, he casually mentioned that Joe would do well to get out of the city for a while. Louise asked me what it meant. I did not tell her. Since then all my efforts to find Montresor have been vain, though I am assured that Louise and her mother—neither of whom respects my authority—see the man from time to time. It is through Louise that you may meet Montresor."

"But I—I—" the young man stammered.

"You shall take her to the opera to-night," said Warrington. "I will introduce you to her if you call at my house to-night sharply at seven. Meantime, I will give you this."

The general manager took from his pocket a wallet, from which he drew several bank-notes of large denominations.

"Here are three thousand dollars," he said. "In the course of your quest you may spend money as freely as you like. When you require more communicate with me at once, signing the name 'Belleville' to your letters or telegrams. But in your communications to me be careful to make no reference, of whatever nature, to the progress you are maybe making in your work. I have told you that after to-night I shall have no suggestions of any sort to offer you."

With shaking fingers the young man thrust the envelope into the inner pocket of his coat. The general manager smiled grimly.

"I am to infer, then, that you will undertake the task?" he said.

Erskine looked irresolutely out of the window, and Warrington, leaving the desk at which he had been seated, held out his right hand. The young man grasped it.

"In view of all that you have said, I don't quite see how I can decline it," he answered moodily.

"To-night, at seven, then," said the general manager.

"To-night—at seven," the young man muttered.

Then, with bowed head and unsteady steps, he left the room. The rays of a warm June sun were shining on the city pavements when Erskine again found himself on the street, but he felt as if the darkness of a stormy, moonless night was closing in around him.

"If I should fail?" he mused.

CHAPTER IV.

A Red Signal Flashes.

WHEN the young man reached his hotel, he was dominated by a feeling of anger and resentment. Why had Warrington committed such a task to him? He had sought no such employment as this, and in his education and training there had been nothing to fit him for such an undertaking. In a perfectly straightforward manner he had applied for a post in the service of the C., S. L. and W. Railroad, and he had received a commission as a spy. Once he put on his hat and turned to the door, resolved to refuse the task. But he thought better of it, and turned back.

At length, however, he came to view the situation in a different light, and all feelings of resentment left him. He remembered that, without Warrington's aid his father scarcely would have been able to have given to him the education with which he was now equipped. And Warrington's present situation was desperate. Surrounded by foes and deceived by his own son, the general manager knew not whom he could trust.

For more than two hours, the young man reviewed the situation carefully. At the end of that time, he inclined to the belief that Andrew Warrington had misjudged his son, and that the bonds were taken by one of the conspirators who were working in the interest of President Burbridge.

Erskine was young and vigorous, and, despite the mental strain to which he was subjected by the terrible responsibility that had been forced upon him, he ate a hearty luncheon, and in the afternoon he took a long stroll in Lincoln Park. Shortly before six o'clock he donned his dress suit and went down to the hotel restaurant for dinner. Then he went to the Warrington home on Lake Shore Drive. He was conducted to the library, where he found the general manager awaiting him.

It was a warm evening, but Warrington was seated in a chair which he had drawn in front of the empty fireplace. As Erskine entered, the general manager turned his head, but did not rise.

"Just seven—to the minute, eh?" he sighed. "Well, boy, how have you been spending the day?"

"In my room and strolling in the park," the young man replied.

Warrington nodded, and, leaning back in his chair, he pressed his hands to his eyes.

"Mrs. Warrington and my daughter are still at the dinner-table," he said. "When they leave it, my daughter will meet us here."

"Is Miss Warrington willing that I should accompany her to the opera?" Erskine asked.

"I have not spoken to her yet upon the subject," the general manager explained. "You will be her escort, however. Though I told you that neither my daughter nor her mother respects my authority so far as their friendship for Montresor is concerned, I am, in all other matters, master in my own house. I have said that Louise would accompany you to the opera to-night. She will go."

Erskine quailed slightly as he heard the grimly spoken words of his host, for it was apparent that, for some reason or other, the young woman was to be compelled to go to the opera against her will. Under the circumstances, it was more than probable that, from the first, he would inspire her with feelings of dislike and distrust. And yet her father had told him it would be through her that he would meet Montresor, the man who had so much influence over her, and yet who was scrupulously keeping out of the way of Warrington.

The general manager seemed to be reading the thoughts of his guest, for after a short pause, he said:

"Fred, you've got to get close to Montresor—and his friends. Whether the bonds were taken by my son or by Stanwood, one thing is clear to me: Montresor knows where they are, and holds the key to the situation.

"Just how he figures in the matter, I do not know. This is one of the things that you must learn, and in order to learn it you may have to play the rôle of a blackguard for a while. Go as far as you like in your abuse of me.

"You have applied for a position in the service of the C., S. L. and W., and I have turned you down. This is your cue. You are disappointed and vindictive. Get into the conspiracy against me, if you can. The bigger rogue you may seem to be, the better will be your chance. Begin with my daughter. In her interest and mine, win her confidence and, when necessary, betray that confidence, in order to save her from herself.

"My flesh and blood seem to be in league against me. Why it is I do not know, but, for the present, we must regard my son and daughter as our enemies—enemies to be taken off their guard whenever it is possible to do so. Is all this clear to you now?"

As Erskine nodded gravely, his lips were compressed, and every trace of color had left his face. Had he permitted his lips to open they would have given expression to his thought:

"It is no man's game—this, if one must fight a woman!"

"If you see Montresor to-night, it is well that you should be able to recognize him," Warrington went on. "In order that you may do this, I will give you one of his photographs."

As the general manager spoke, he rose and crossed the floor to a little cabinet that stood at one end of the room. Opening one of the drawers, he took out a photograph which he handed to Erskine.

As Erskine looked curiously at the picture, he saw the portrait of a young man about thirty years of age, with a grave, handsome, and resolute face, and slightly curling hair. The mouth was shaded by a heavy dark mustache, and the broad shoulders seemed to be indicative of extraordinary physical strength.

"Put it into your pocket," directed Warrington, in low, sharp accents.

Scarcely had Erskine done this, however when he was startled by the quiet, clear voice of a woman.

"You wish to see me, father?" it asked.

"Yes, Louise. Come in," Warrington replied.

Erskine, who had risen, was now gazing at a young woman who stood in the doorway that communicated with the hall, and as he looked, a feeling of unrest that was akin to fear stole over him.

The newcomer appeared to be about twenty-two years of age, and rather above the average height of women. Her features were admirably molded, but though the dark eyes were filled with light and her cheeks were suffused with color, there was something in her presence that was suggestive of coldness. Despite the girlish grace which invested her, her figure was that of a splendidly developed woman.

The evening gown she wore left bare her white arms and shoulders, and clung to her in a manner that revealed the lines of her beautiful form.

Her glossy, luxuriant hair was black, and from its coils came the gleam of precious stones.

As the young woman slowly advanced into the room, she turned her face toward Erskine. For a moment the young man regarded her with admiring eyes, then, as he remembered the part he was to play, his gaze fell and a pallor overspread his face.

"Louise, I want you to meet Mr. Erskine, the son of an old friend whom I have not seen for many years," said Warrington. "Fred, this is my daughter, Louise."

As Erskine bowed, without speaking, the young woman smiled slightly and inclined her head. A moment later she turned to her father.

"Have you ordered the carriage?" she asked.

"Yes," Warrington replied. "Unfortunately, however, I shall be unable to accompany you to the opera to-night. I have asked Mr. Erskine to take my place, and he has expressed his willingness to do so."

Starting slightly, Louise turned to Erskine. The smile faded suddenly from her lips, and as she looked inquiringly at the young man whom she now met for

the first time, she paled a little and her eyes wore a strange, searching expression.

"Mr. Erskine is very kind," the young woman said coldly.

"The curtain rises at eight, so I have ordered the carriage to be at the door at half-past seven," Warrington said.

Louise turned again to Erskine. "I will be in the drawing-room at half-past seven," she said perfunctorily.

Then she crossed to the door and left the room. Warrington, with quizzical eyes, watched his daughter until she disappeared in the hall, then, with a slight smile, he turned to Erskine.

"My pretty kitten thinks she has found a mouse," he said with a dry chuckle. "Now have a care, my boy, and keep your eyes open for Montresor. Something tells me that he will cross your trail to-night. Meet him if you can, and win his confidence and hers.

"Remember that the key to the mystery of the affair may be in this man's hands, and until you find that key you will be unable to find the missing bonds. That miserable scoundrel has cast some sort of a spell over the members of my family. Whether he is working in the interest of Burbridge or in his own, I cannot tell. But get the bonds, lad—get the bonds. In God's name, get the bonds!"

The voice of Warrington broke, and sinking into his chair he hid his face in his hands.

"I'll do my best, sir," Erskine answered wearily.

For several minutes the two men sat in silence, then Warrington rose deliberately and, walking over to Erskine, he laid a hand on his shoulder.

"Until you succeed in your quest, we must not meet again," he said. "After to-night you must not visit either my house or my office. If my daughter is willing to see you again, you must meet her at those houses which she is in the habit of visiting. I have told you that, so far as this case is concerned, you must work as a man in the dark. You must do more. You must run your train without lights, and never allow any man or woman to suspect that you are a friend of mine."

As Erskine rose, Warrington grasped his hand. "The drawing-room is across the hall," he went on. "Go there now and wait for Louise. When you return from the opera, make no attempt to see me. Good-night."

They shook hands; then, with a heavy heart and hesitating steps, Erskine made his way to the drawing-room. There, seating himself, he fell prey to a series of gloomy reflections.

How little Warrington had told him, after all! What was the reason for this extraordinary lack of confidence between this strange man and his children? What was at the bottom of the mysterious game which this man, Montresor, seemed to be playing? How was he to meet and win the confidence of the Englishman, and, having won that confidence, how was he to recover the bonds?

"I am ready, Mr. Erskine."

The young man started violently as these words fell upon his ears, and a moment later he was looking into the lustrous eyes of Louise Warrington, who stood a few paces from him and was in the act of drawing on her gloves.

"Ah, pardon me, Miss Warrington," Erskine stammered, as he rose hastily. "I did not hear you enter, and—"

"The carriage is at the door, I believe," Louise interrupted coldly, as she raised her opera cloak to her shoulders.

Like a man in a dream, Erskine accompanied the beautiful young woman to the street and helped her into the waiting carriage. As he turned to the coachman, Louise said quietly:

"The man has his instructions."

Erskine entered the carriage, closed the door, and the carriage moved away. For several minutes the occupants of the vehicle sat in silence. Erskine was the first to speak. With a little laugh, he said:

"I am afraid, Miss Warrington, that you will find me a badly informed escort to-night, for I do not even know the name of the opera to which your father had planned to take you."

"It is 'Faust.'"

"Then we are going to the Auditorium, of course."

"No," the young woman answered coldly.

"But I thought it was only at the Auditorium that grand opera is presented in Chicago."

"True. It is at the Auditorium that 'Faust' is to be presented to-night. But we are not going there."

Erskine started. The interior of the carriage was so dark that he was unable to see the face of his companion, but into his mind's eye there came a flash of ruby light—the flash of a danger signal, swung by the hand of Fate!

"And why?" he asked in a voice that was almost as cold as hers had been.

"Because I have an appointment."

"Indeed!" he murmured.

As he spoke he became aware of the fact that the cab was turning sharply to the right.

"Where are we going now?"

The young woman did not answer, and for several minutes the silence was unbroken. The carriage shortly afterward made another turn, and Erskine became aware that it was headed for the dark shades of Lincoln Park.

The young man's feeling of amazement had given place to anger for a time, and now anger was succeeded by curiosity. What sort of an appointment might this singular young woman be expected to have at this hour in the park?

It was clear that Miss Warrington had been right when she said that the driver had received his instructions, for he drove in the manner of one who had traversed this route before and was perfectly at home among the dark, winding roadways of the great city playground.

The stars were shining, but there was no moon. Erskine, however, made out the dark outlines of the Grant monument shortly before the carriage drew up beside a clump of trees.

"Now, leave me," please," Louise said shortly, when the carriage stopped.

"Not here," Erskine replied, in a tone of decision. "Unwilling as I am to intrude upon you, I must decline to leave you until I see you to the door of your father's house."

"I fear that I cannot longer look for protection in my father's house," Louise retorted bitterly, "when it was from that house that my father sent me with a miserable hireling spy."

"A spy!" Erskine faltered.

"Yes, and now that you know that I have found you out, will you be good enough to leave this carriage?"

"No," the young man muttered.

"Then I will be compelled to do so," and, as she spoke, Louise Warrington rose, thrust open the door and stepped out. Erskine followed her.

Scarcely had the young man's feet touched the ground when he saw a dark figure advancing toward him from among the trees. It was the figure of a man.

"Mr. Erskine," the newcomer called.

"Well?" Erskine asked.

"A word with you, if you please."

Erskine, leaning forward, tried to see the features of the man who had accosted him, but he was unable to do so. After a moment's hesitation, he moved slowly in the direction of the stranger, who was advancing to meet him. As each halted, about five feet away from the other, the stranger spoke.

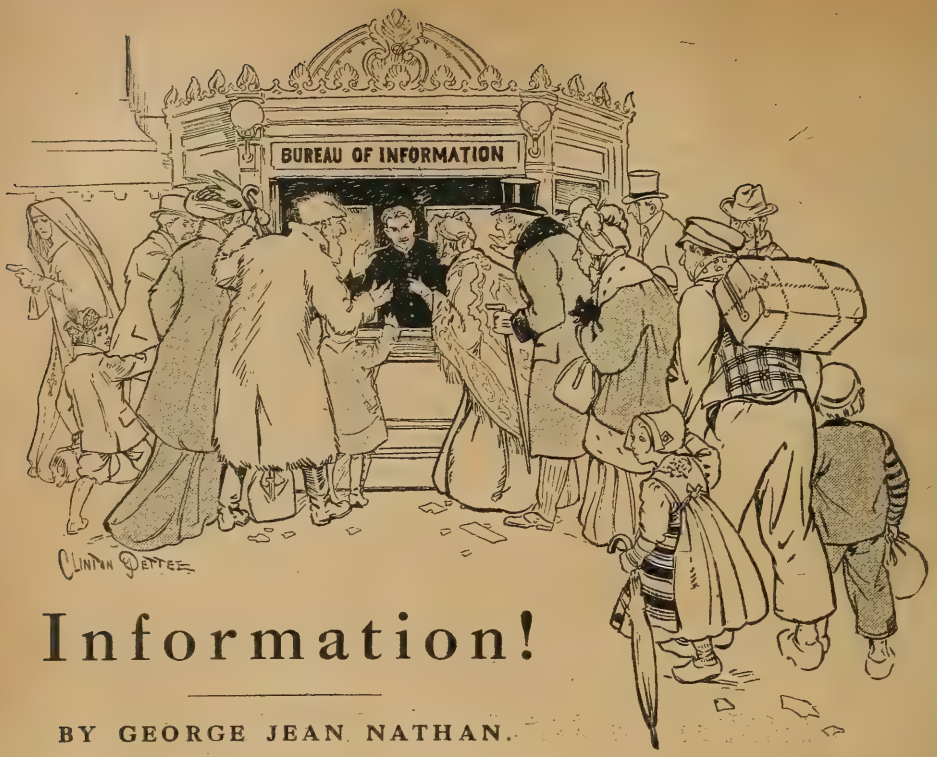
"I am sorry to have to ask you to give me the photograph which Mr. Warrington gave to you a few minutes ago," he said, and Erskine saw that the speaker was himself the original of the photograph—Montresor!

Erskine was about to speak when the movement of carriage wheels behind him caused him to turn his head. Louise Warrington had disappeared, and the carriage that had brought her to the spot was now moving rapidly away!

The astonished young man was on the point of yielding to an impulse to follow the departing vehicle when a heavy blow, landing behind his left ear, sent him staggering toward the clump of trees from which Montresor had emerged. He did not fall, however, and he was in the act of starting toward his assailant when a blow from behind felled him to the ground, and he lost consciousness.

(To be continued.)

A flat wheel makes more noise than a true one, but it doesn't do its work as well.—Reflections of a Hog-Head.



Information!

BY GEORGE JEAN NATHAN.

ONE of the busiest bureaus of a railroad system is the Bureau of Information, and the men who operate them must know a great deal more than the answer to that oft-repeated query, "What time does the ten o'clock train leave?"

They must be able to direct a passenger from a given point to some speck on the map where railroads appear to be unknown quantities. They must be well up in rates, and they must know every point that their line touches and the principal connecting points with other lines. They are the human time-tables and guide-books—for they are always correct.

Some of the Queer Queries Hurled at the Patient Individual Who Is Supposed to Reply to Questions Relating to Railway Transit and Nothing Else.

THE least spoken of and the most spoken to department of a railroad is its bureau of information. But it is a busy place, nevertheless. It opens up for business early in the morning, and keeps open until late at night. And it takes a pretty level-headed man to deal out the information.

"Oh, yes," says the head of one of the railroad information departments in New York, "they do ask pertinent questions about trains, but it is a perfectly fair and honest statement when I say that the odd, fantastic, and downright foolish questions that are put to us in the course of a day exceed the sane questions by a ratio of almost three to one.

"Some days it is less than other days, and when we are running excursions a whole lot more."

The chief clerk of the bureau of information of the New York Central lines—a bureau on which the company spends many thousands of dollars a year—is Edward J. Bradley, known in railroad "information circles" as the premier rapid-fire question answerer.

He has been serving in his present capacity in the information-booth in the Grand Central Station for more than eight

years, and during that time has come into contact with hundreds of inquirers of all kinds. He is aided by Albert Jackson, whose ability to speak ten different languages is frequently useful.

"A layman," says Mr. Bradley, "would hardly believe me when I say that we have to answer—or, rather, are supposed to answer — hundreds of the most outlandish questions. There are about a dozen persons constantly at the windows on the hunt for information, and some days this number runs as high as fifty.

"In addition to this, when it is remembered that the number of telephone inquiries we answered from January 1 to June 1, 1909, for instance, was exactly 97,642, you can get a fair idea of the tremendous number of information-seekers whom we have to accommodate.

"If you think the old one, asking at what time the two o'clock train leaves, is a poser," continued Mr. Bradley, "listen to some of these.

"An elderly lady hurried up to the window and wanted to know if the ferry at Garrison-on-the-Hudson landed at the foot of the hill.

"Another lady, very much younger, said she intended to leave for Boston by boat three nights later, and wanted to know whether the weather indications were good for that night. Questions as to weather are put to us every day, the one about moonlight nights being the most frequent.

"'Do they check dogs in the parcel-room?' is another favorite, as is also the inquiry as to whether or not the engine-bell rings loud enough to disturb the slumbers of the passengers in the sleeping-cars.

"Stand around for a while, and you will certainly hear one or the other. On the day I have in mind, a man rushed up to the window, told me he was going to Chicago on the Wednesday following—two days later—and asked me whether he would surely be able to make connections with a certain train for the West. The connecting time was twenty minutes, and I told him I thought he would be able to. 'Think won't do!' he roared at me. 'I must know positively!' And when I told him I could not tell him positively, he departed in a furor and said he would report me for incompetency.

"Speaking of similar threats, on that very same day I was actually reported to my superiors by a woman, who wanted to know whether there was a special service at Grace Church that afternoon. When I answered that I did not know, she exclaimed: 'I am a regular commuter on this railroad, and its information bureau ought to be able to give me the information about the city that I want.'

"The case of this woman is not so very much different from that of a lot of other persons—you would be surprised at the

number—who believe that the information bureau is for information on any and all topics.

"Men come up to the window, ask me for information on prize-fights or baseball percentages, and try to get me to decide bets for them. A man once asked me to decide a bet as to the significance of the name of the planet Mars, while another wanted to know, for a similar purpose, how many ties there were on the tracks between Scarborough and Fishkill. The parties had agreed on me as the arbiter.

"In addition to inquirers such as these, every hour or so, some one will come to our booth and get very angry when we refuse to sell him stamps. One woman who approached the window begged and begged me to sell her a stamp because, as she said, she had to mail an important letter on the next train.

"When I told her that we did not have any stamps to sell, and could not sell them if we did have them, she left in a huff. She furthermore refused to go across the station, where I directed her, to get the stamps, saying as she swished away that she would henceforth always patronize a railroad that *did* sell stamps.

"Once a man wanted to punch me because I would not stop to tell him in full just how the station was heated. I told him that the heating-pipes were placed under the benches, and, after he had failed to locate them in their concealed position, he came back and told me I had better not try to joke with him or he'd knock my head off. Another man wanted to know how the big station clock was worked, and still another, why there were not more clocks around.

"If a train is late, fully a score of people will rush up to the booth and want to know if it will make up time, and how much. Every day a number of prospective travelers inquire as to whether children can play their games in the Pullman smoking-rooms. Others are eager to learn the best play to go to see when they have arrived at their destination, and there are some who ask for a book to read.

"One out of every hundred wants to know why it is that I cannot take care of his parcels for him instead of sending him to the checking-room. Every little while somebody who has just arrived from out of town asks me to call a cab for him.

"One woman asked me if I would arrange to have a cab meet her when she arrived in Buffalo. I told her that she would have no difficulty in getting a conveyance; but she insisted that it might be raining, and that she did not care to take any chances. When I finally convinced her that I could not do as she wished, she said she thought I might be obliging and telegraph.

"Another woman asked me to tell her how far it was from the Union Station in Cleveland to a certain house she wished to get to in another part of that city. I estimated the distance, but she was dissatisfied because I was not able to tell her the exact number of blocks."

There are many seekers after information who resort to the mails, and the questions they propound are no less wonderful than those asked at the station. P. V. D. Lockwood, of the New York Central lines, regularly receives these communications. Each of these letters, no matter how difficult the query, is answered.

One writer recently asked Mr. Lockwood if the railroad company could help him locate a long-lost relative who had been a regular patron of the road, while another inquired if he might be allowed to buy a seat in the Pullman for his dog.

A woman wrote not long ago, asking that a porter be sent with her to Garden City. She said that she did not know whether the line was a direct one or not; but, if the company sent a porter along with her to look after her luggage, it would not matter. Otherwise, she would travel over another road whenever she had occasion to.

A letter received from a man asked if the seats in the day-coaches were sufficiently wide apart to allow him to stretch his legs if his suit-case were placed in front of him. Another was anxious for information as to whether he would be allowed to practise singing in the Pullman smoking-room during the run to Chicago. He stated that he did not wish to lose a day in his effort to cultivate his voice.

A woman wrote recently and asked what class of people would be traveling on a certain train to the West in a week.

Another wanted to know if she would be allowed to carry a portable bath-tub with her, and have it set up in the Pullman dressing-room.

The Pennsylvania's Conquest of New York.

BY ARNO DOSCH.

WHEN we published our first article on the Pennsylvania Railroad Company's new passenger station in New York City, over three years ago, the building existed only in architects' drawings and blue-prints. Now the station stands in beautiful and classic outline, like the embodiment of a dream whose fulfilment has been long awaited. And yet, for a work of such a stupendous nature, the accomplishment has been miraculously quick. If you would realize what a stupendous task it has been, and still is, you can get an idea of it from the following article.

How a Railroad Bought Twenty-Eight Acres of New York City, Bored Ten Miles of Tunnels, and Is Spending $100,000,000 Just To Run Its Tracks into the Metropolis.

CASSATT'S dream has come true. New York City is now an asset of the Pennsylvania Railroad. Straight across the most thickly populated and most valuable island in the world the Pennsylvania has shoved its underground tubes, and in the very middle has planted its gigantic station capable of handling half a million people a day.

Cassatt, who made the sign of the Keystone stand for perfection in railroading, was president of the Pennsylvania, and dreamed for it wonderful, almost impossible things. He sat over in his office in Philadelphia and watched the New York Central, with its great station and many lines, carry off the cream of the New York traffic because it was easy to reach.

He saw his own lines stopped at Jersey City, with the Hudson River between, and nothing with which to win traffic from Manhattan Island except ferry-boats, slow and uncertain devices, starting from the ends of narrow streets, down which the passengers crowded, dodging the heavy trucks of the water-front. His road was enormously handicapped. No matter what it cost, he saw that he must remove the disadvantage.

A Dead Man's Dream.

So he dreamed of eliminating the barrier and making of Manhattan Island a part of the mainland by sending his trains bowling under the river into the very heart of the city. Nor was that all of the dream.

He could see how convenient and profitable it would be to make a great

seaport at Montauk Point, the farther end of Long Island, dependent upon his railroad. With no other line touching the new port, the Pennsylvania could fetch and carry for whole fleets of steamers, and keep its tracks busy with freight-trains bringing the produce of the South and West.

As to the seaport, he did not look for it immediately, but he secured control of the Long Island Railroad, which owned the land at Montauk Point, and he planned four more tubes under the East River. Then he set about writing an epic in steel and stone, and made possible the greatest single project ever undertaken by a railroad. Unfortunately, he did not live to see it finished, but he died conscious that he had rounded out a full life with a marvelous climax of achievement.

Comparison with Panama.

It has been a surprisingly expensive undertaking. For lack of anything else to compare it with, it must rank with the Panama Canal, the opening of which is expected to mark an epoch in the progress of the world.

The canal is now more than half finished, and has cost $128,000,000, while the Pennsylvania extension into New York, which is now about ready for use, shows on the auditor's books paid bills to the extent of $100,000,000. The full force of these figures can only be realized when it is remembered how long the nation hesitated before it decided to spend $300,000,000 to bring about a lasting benefit to the whole world.

One-third of that amount was paid out by a single corporation to secure a few miles of track into a city.

One hundred million dollars! It is difficult to conceive such a sum, baldly stated; but if some one had stood on the bank of the Hudson with its discoverer three hundred years ago, and had thrown a dollar into the river every minute since that time, he would still have several decades to go before he had got rid of such a pile of money. It took the Pennsylvania seven years.

But, expensive as it was, its builders knew before they started that they would get back all and more with it. There lay New York, the most fruitful field for transportation companies in the country, but only tapped directly by one railroad. They saw that by cutting into the up-town district, which was having the greatest growth, the Pennsylvania could command a big share of this traffic.

A Safe Venture.

It was no experiment. The railroad was taking no chances. It could not lose. Every new form of locomotion which had ever been tried in New York, from horse-cars to the Subway, had always found all the patronage it could handle. Every ten years the number of passengers doubled.

Before taking final action, however, an investigation of the density of New York's population was made, and it was found to be eight times as great as any other American city, and more than three times as great as London. This indicated that future growth must be outward, making suburban traffic, and that the Pennsylvania was counting on.

With the various census figures to go on, the Pennsylvania directors forecasted a population of 6,000,000 in 1913, and considerably over 8,000,000 in 1920. It was merely a question where these new millions would sleep. They would practically all have to seek the suburbs. What suburb they chose, and by what lines they traveled, concerned the Pennsylvania.

The question of freight was also considered. Most of it now comes to New York on ferry-boats and lighters. The amount which crosses water in this manner is alone 100,000,000 tons a year, and of this the Pennsylvania handles 43,000,000. Bringing this directly into the city and across to Long Island would mean a saving which would in itself pay interest on the $100,000,000.

Realizing the Dream.

Cassatt's dream had taken form by 1901; now it is realized. It consists of two single-track iron tube tunnels under the Hudson and four under the East River, forming almost a straight line from New Jersey to Long Island, the connecting tubes on Manhattan Island traversing Thirty-Second and Thirty-Third Streets from end to end. In the very center of New York the Pennsylvania depot

stands on twenty-eight acres of land, the biggest railroad station in the world.

The whole new system commences at Harrison, New Jersey, just east of Newark, where a large transfer station has been built. From that point a new double track, on an elevated roadway, makes a straight line across the Hackensack Meadows and directly through Bergen Hill, which forms the southern end of the Palisades.

Immediately beyond Bergen Hill is the Hudson, where the tunnels, without rising to the surface, plunge into tubes lying seventy feet below the bottom of the river. Coming up on Manhattan Island, the tracks multiply from two to twenty-one for the terminal.

Reaching Long Island.

The station itself faces Seventh Avenue, between Thirty-First and Thirty-Third Streets, and the tracks to Long Island pass out eastward under it in two twin tunnels, extending from Seventh Avenue, under Thirty-Second and Thirty-Third Streets, to the East River, gradually dropping to a lower grade until they enter the four single-track tubes at the East River, beyond First Avenue. Going under the river, the tubes come to the surface at the entrance to the big yard at Sunnyside, on Long Island, where connection is made with the Long Island Railroad.

The task of building this long subaqueous passageway was gigantic, and could not have been accomplished except in a day when methods worthy of giants are used. But even with all the experience which the engineers had had in tunneling under rivers, obstacles were constantly encountered which required immediate solution.

The work was planned more than ten years ago, but the cost was so great that the Pennsylvania hardly considered it safe to sink such a large sum at one time into an enterprise which could not be made to pay until it was completed. There was a movement afoot to have all the railroads entering Jersey City combine in building tunnels under the Hudson, but the others did not respond, and the Pennsylvania finally decided to do it alone.

After it had all been planned, two companies were formed to secure the necessary privileges. The first of these, the Pennsylvania, New Jersey and New York Railroad Company, was incorporated February 13, 1902, and was empowered to build to the New Jersey line, which is half-way under the Hudson.

The Pennsylvania, New York and Long Island Railroad, incorporated April 21 of the same year, was to take up the work at that point and carry it the rest of the way under the river, across Manhattan Island and under the East River. These companies were a mere formality, and the whole task was handled by a special board of engineers, headed by C. M. Jacobs.

The great engineering problem solved, and the spectacular feat performed by these men, was the building of the mile-long tunnels under the Hudson River. The excavations within the city, while on an enormous scale, do not grip the imagination like the slender threads of steel and concrete working their way foot by foot through the soft mud until they met within half an inch of where they expected to be.

At the time these tunnels were commenced, in 1903, there were no others completed across the Hudson, and a long line of unsuccessful attempts since 1874 made the undertaking appear doubtful. In less capable hands it might have been, but in fact it proceeded without a hitch. Unexpected difficulties cropped up from day to day, but each was met and disposed of as soon as it showed itself.

An All-Important Choice.

There was a choice of three methods, all of which had been tried in other cities, notably London. These were: Building the tubes in sections and sinking them in coffer-dams, by the use of caissons, or by pushing the tubes forward from the inside behind shields. The most successful for long stretches of tunneling under water had been found to be the shield method, so that was adopted.

The principle behind it is the same as that of shoving two fingers horizontally through mud until they touch. The tunnels start out from both shores and meet in the middle. They make their way by pressing shields the size of the tunnel against the soft silt of the river-bottom and forcing it out of the way; or, when

necessary, taking some of it into the tunnel through the traps in the shields and carting it off through the portion of the tunnel already completed.

Care of the Crew.

As the shield moves forward, propelled by hydraulic pressure, iron rings the size of the tube, and from eighteen to thirty inches wide, are fastened one to another in a string, forming the body of the tunnels. The shield progresses continually beyond the last of these into the mud, preparing space for another, always leaving a space between the face of the shield and the last of the rings liable to cave in. This is prevented by compressed air, which offers sufficient resistance to hold even soft mud in place. The use of compressed air makes the work very inconvenient on account of the constant attention to air-locks, but the danger from it to the workmen is not great when there is proper medical attendance. Rules for the use of air and provisions for the safety of the men were laid down by the railroad in every contract, and as the builders lived up to them there were no deaths from the "bends," which attacks men remaining for long watches under compressed air.

The work began with the sinking of two shafts, one on the Manhattan and one on the New Jersey shore, to provide starting-places for the tubes. The Manhattan shaft was excavated without trouble, but the one on the other side encountered difficulties which did not augur well for the whole enterprise.

Breaking Ground.

It was started in the fall of 1903, and during the winter was flooded by high tides, bursting water-mains, and heavy rains. The rock was of poor quality, constantly collapsing, and the sides caved in if not timbered immediately. But, by the expenditure of an unexpected amount of money, the shaft was in shape for work in the spring, and danger from water was eliminated by the introduction of an elaborate system of drainage.

The next step was to start the tunnels toward the river-bed far enough to admit of the shields being erected and the compressed-air being turned on. As the shields were erected a considerable distance from the river, they were forced at first through rock, gravel, rip-rap, and even the stone sea-wall, men working ahead of the shield clearing the space.

During this first stage of the progress the nine trap-doors in the specially constructed shields were constantly open for the passage of the men, and the dirt and rock they removed, but as soon as they reached the line of the shore it was planned to close the doors tight and force the shields steadily ahead, pushing the semifluid mud out of the way.

In theory this worked out splendidly. All that was necessary was to use sufficient hydraulic pressure to lift the bottom of the river slightly and give passageway for the tubes underneath, just as a finger presses its unerring way until it reaches the tip of the other finger.

The Crawling Monster.

But, when it came to putting it into practise, it was found that the tube would not go in a straight line, as it should. There was no question about the power to push it ahead. The shield moved into the mud irresistibly, but it showed a constant tendency to rise to so marked a degree that it would not have been long before the tunnels came up in the bottom of the river. The more it rose the greater the tendency to rise.

The surveying crew was constantly on hand, however, to detect the slightest deviation from the line. Every time a new ring was set in place they took its position down to the thousandth of an inch, and that is no easy task in the foggy atmosphere of compressed-air.

They discovered this tendency immediately, and a way was found to prevent it. One of the lower doors in the shield was opened, and a certain amount of the pressure from below was removed by the silt which was taken in through it.

This became so important a part of the work that the tubes lying side by side and forging ahead in the same direction were worked one at a time, the idle one being used to carry off the refuse. When this was being done the shield of one would be driven until it had passed the other a short distance, and then the other resumed its activity.

This had a peculiar effect. As one passed the other it drew away and rose above the other, and it was all the engineers could do to keep them in line at such times.

Contortions of the Tubes.

Before the tubes reached the river mud the iron rings had a tendency to flatten, making them broader than they were high, but as soon as they reached the mud the tendency was exactly the opposite way. Out in the middle, however, they remained round.

When it came time for the tubes to meet, far out under the river, the surveyings showed such "precise record work" that it was decided to drive the shields directly at each other until they touched. In the case of both tunnels the faith was justified, as the tubes had not deviated in their course as much as half an inch.

The success of the tunneling depended very largely upon the shields, but at the time this work was commenced none had been designed which filled the requirements. To provide one which would answer all purposes devolved upon Chief Engineer Jacobs, and his assistant, James Forgie, and they made a design which proved so efficient that it has become a standard. In the main outlines it was not unusual, but in detail it was largely original.

It fit into the end of the tube like a cork in a bottle, being pushed forward by rams capable of exerting 6,000 pounds of pressure to the square inch. The power was exerted within the shield itself, which weighed 386,000 pounds and was twenty-three feet, or the size of the tunnel, in diameter.

What the Shield Is Like.

At the face, or most forward portion of the shield, was the "cutting edge," protected from above by a hood while in rock and gravel. The material through which it was passing was attacked from eight sliding platforms operated by hydraulic pressure separate from that which moved the shield forward.

Just below the platforms was a "bird fountain," or water trap, cut to catch the muck if it came too quickly. The doors in the shield to permit of the passage of material and men had to be so constructed as not to hinder the work and yet to close promptly and make the shield "choke itself" if the men lost control of the material which they were working against.

As the material was removed the iron rings were placed. These came in segments, and were merely bolted together, the segments making air-tight connections. On the inside they were later strengthened by a two-foot coat of concrete.

The provisions for the maintenance of the compressed-air section at the shield involved two bulkheads, each ten feet thick, with heavy doors to permit passage. One of these was placed immediately behind the shield, and the other 1,200 feet distant.

Differences of Conditions.

While in the course of construction through the rock or gravel the tubes were well sustained, but as soon as they pushed their way into the mud, there was an immediate difference, bringing an additional strain on the tubes at the points where the change was made. This condition was even more pronounced where the tubes passed through the sea-wall with mud on both sides. To meet this extra strain steel tubes were placed at these points of danger.

The Manhattan cross-town tunnels, which start from the station on Seventh Avenue and end on Long Island, encountered difficulties which are not of so great importance in ordinary tunneling. The two used for west-bound traffic lie under Thirty-Third Street, and the two for east-bound traffic under Thirty-Second, and on their entire length are flanked by many buildings, some of them twenty stories and more high.

In building them, blasting powder had to be used with great caution, and, where the ground was soft, the timbering necessary to prevent cave-ins presented even a more perplexing problem. Special devices were invented on the spot to meet contingencies as they arose, and deep-sunk building foundations were often given a subfoundation without affecting the heavy pile of steel and stone above.

In fact, the tunnels did not make as much outward impression on the life of the city as the excavation of a foundation for an ordinary building. There were occasional shafts sunk, but most of the material was removed through the ends of the tunnels and dumped on scows at both ends.

Even New York Noticed.

As the tunnels approach the East River they connect with the four tubes crossing to Long Island. The construction of these was not unlike those under the Hudson, except that they were only half as long.

Of all this work the city saw nothing at all, but when it came to building the sunken terminal, the magnitude of the undertaking was too obvious to escape attention. Even in New York, where things are done on a huge scale and there is no limit to the audacity of enterprise, the Pennsylvania's operations outstripped anything that had ever been done.

Without consideration for the value of the property, it was decided that twenty-eight acres were needed for the handling of passengers and trains, and this in a city eight times as densely populated as any other American city. It meant the purchase and demolishing of four very large city blocks which had been built solid for years. Four hundred five to ten story structures crowded the space, but to the railroad they represented only so much brick and stone which must be got rid of with the greatest possible speed.

Treating the mass of buildings as if they were hills which had to be cut away, shaft heads were driven straight through them and great chunks were bitten out of the houses. Cars operated by electric cranes were always handy to dump the chunks into, and from that time the material was not touched until it was placed on scows.

Chunks of Manhattan.

When the buildings were all gone, the solid rock was excavated over the whole area to a depth varying from forty-five feet on the east end to sixty feet on the west end. It made a hole in the ground bigger than anything of the kind New York had ever seen. To lay the foundation for the reception of the tracks and the station cost alone $5,000,000.

The building proper, which covers half of it, has cost over $15,000,000. As much of it is below as above ground and the proportions of it are so nicely balanced that it does not seem overlarge. Thirty-Second and Thirty-Third Streets west of Seventh Avenue were vacated to give it room.

It has a frontage of 430 feet with side walls 784 feet long. The tracks are forty feet below the surface of the street, permitting of three levels between the entrances and the trains.

The structure was built with one end in view, that of handling the crowds. The railroad looks for a business which would make even that capacious station crowded if it had not been so arranged that the incoming and outgoing throngs are kept away from each other.

World's Largest Station.

The main entrance is on Seventh Avenue and extends across half the width of the building, but all the front entrances lead immediately into an arcade forty-five feet wide, to give room for the commuters hurrying in and out during the rush hours. But the commuter who allows himself only half a minute to catch his train will have to wait for the next, as he has a thousand feet and two flights of stairs ahead of him.

A special subway runs from the baggage-room on the second level to the tracks below, and up and down this the baggage will be hauled by power trucks. The old familiar scene of baggagemen hauling high piles of trunks along the platforms will be done away with and they will be sent speeding to the baggage-cars before the passengers are permitted on the platform.

Big elevators for the handling of trunks have also been built, and, in spite of the enormous size of the room and the number of trunks, the organization of the baggage-room is so arranged that a traveler can rush in with his trunk in a taxicab with him and have it checked on the same train, even if he has only a few minutes to spare.

With the mammoth waiting and bag-

gage rooms on this level it hardly seems as if there would be room for anything else, yet the taxicab station is at the back, and in front lies the concourse, over 200 feet wide and 430 feet long. It joins the waiting-room to the west, affording an easy passage to the stairs which descend to the train platforms below. The concourse is also in the nature of a broad gallery overlooking the tracks, and is roofed far above by a train-shed of iron and glass.

In spite of the bewildering size, however, it will be easy to keep straight. At the head of each flight of stairs will be signs such as are used in any railroad station, indicating the destination and leaving time of the next train to depart from the platform below. Gatemen will, of course, be stationed at the head of each flight to examine tickets.

To facilitate traffic and save time both for trains and passengers, the tracks have been apportioned and commuters can always tell just where they will find their trains. Trains coming from the west of the Hudson will enter on the south and leave at the center platforms. Trains made up in the yards at Long Island for Philadelphia and the South and West, will stop to pick up passengers on the tracks next, and the northern side will be devoted to Long Island traffic.

The length of time necessary to empty and load trains has been figured down to a nicety, and no more will be allowed for a train than necessary. Incoming trains require but a minute or two, but it will take between five and ten minutes for out-bound trains, except in the case of some of the suburban traffic, which will fill almost as fast as they empty. Main-line trains will have their own tracks and will be given more leeway.

Segregated Traffic.

With the same end in view special entrances and exits are arranged so that Long Island commuters will not have to jostle those bound for New Jersey, and main-line passengers will have ample space to finish the last necessary details without having their way blocked by a swarm of people hurrying through the station. All the stairways are so built that they present themselves immediately before the passenger when he requires them, and even some one who has never been in the building before can race through it to catch a train without losing the way.

The main entrance is not the only one by any means. At every corner and street crossing which the building touches there are wide entrances and exits. There is even a passageway under the street from Thirty-Fourth Street. It is calculated that three-quarters of a million people could go in and out of the building every day without crowding or delay.

Carriages and motor-cars enter at the two corners on Seventh Avenue and descend by easy inclines to the middle level, where passengers must alight at the entrance to the waiting-room, and, crossing the waiting-room and concourse, descend on foot by the regular stairs to the trains.

The exits are separate from the entrances, and the incoming passengers will find themselves headed down long galleries which lead under the waiting-room to special elevators and stairways.

Looking Ten Years Ahead.

With such facilities for taking on and disposing of train-loads of passengers, it is expected that the terminal will be able to handle 1,450 trains a day. There is not enough traffic to make it necessary yet, but by 1920, when there is that extra four million to bring to the city and fetch home again every night, the station will be taxed to its capacity. At least that was the theory of the board of directors when they authorized the spending of $100,000,000 on the New York connections.

When the whole system was about completed, it was decided also to operate suburban trains through the McAdoo tunnels, connecting at Marion, New Jersey, with the main line of the Pennsylvania.

The marvel of the great station and the thing which will be most commented upon will be its cleanness. No coal-burning engine will ever enter the station. Special electric engines have been made, and they will take all trains as far as Harrison in New Jersey and the Sunnyside yards on Long Island. Train equip-

ments will be entirely new. All the cars are built of steel.

It might seem as if New York were too large to be affected even by the building of the biggest railroad station in the heart of it, but there will, in fact, be a great deal added to the metropolitan air of the city by its presence.

From the passenger's point of view there is just one possible drawback to the new system, and few will ever care anything about it. New York, approached by the river, has had one grand aspect—the great cluster of buildings seen from the river.

At night the lower end of the island appears to be a mountain filled with fire seen through many caverns, and those who come to New York over lines which must be content to empty their passengers into ferry-boats at Jersey City can gaze on this fascinating Arabian Night spectacle and get what consolation they can for the extra time it is taking them.

WHY ANIMALS ARE RUN OVER.

BY E. A. SPEARS.

They Seem to Have a Peculiar Instinct That They Can Run Faster Than a Train Can Travel.

WHEN Webb's Road, as it was locally called, now known as the Adirondack division of the New York Central, was first built through the woods, one of its wonders was the deer that got on the tracks and ran in front of the engines.

This happened not only at night-time, but during the day, also. The animals didn't know what to make of the mass of steel and wood thundering down upon them, and, after hesitating a moment, they would turn tail and flee before the oncoming train.

It often surprised the enginemen how fast these animals could cover ground. Frequently they were overtaken and hurled to one side by the pilot. Sometimes, however, they would jump to one side just as the pilot was about to strike them. Not infrequently, at night, the great headlight would keep a deer standing still in his tracks until he was struck down.

It seems to be the general rule for most animals to keep running on the track straight ahead of the engine. A fireman tells how he was going up the Rome, Watertown and Ogdensburg line (New York) during the summer, when he noticed a hound loping in front of the freight.

The train was not proceeding very fast, but it was catching up with the dog. As it came nearer, the dog increased speed and at length ran to his utmost. His ears flopped up and down, his tail rose and fell with every leap, as the freight kept creeping closer every second.

The dog kept to the track, notwithstanding the ringing of the bell and the tooting of the whistle. Finally the engine was right upon the dog, and the last the fireman saw of him was his bobbing head just in front of the train. In a few moments more the dog was killed. He had run along for nearly half a mile, and something or other kept him to the rails.

Birds have a like instinct for keeping in front of a train, only they seem to have a strong desire to cross the track. Engineers and firemen have noticed, time and again, that when a flock of birds are flushed from between fences, they will follow parallel with the engine, at times almost for a mile in the endeavor to cross in front of it.

If they succeed in crossing, they quit following the train. Often they swoop up over it and through the smoke, when the dash in front fails.

When the train is going too fast, of course, they get left.

In the autumn, many birds migrate in the night, and they are then attracted by bright lights. It is likely that some of them are killed by the headlight, for firemen and engineers tell of finding blood on the heavy glass.

Insects, such as moths, often plaster the headlight after an evening run. Undoubtedly, insects are attracted to the light when it is a long distance away, and thus they get in the pathway of the train. At any event, the great headlights of locomotives become literally smeared and plastered with the bodies of the insects which fly at night.

WITH HIS FINGERS CROSSED.

BY HARRY BEDWELL.

Sammie McClaren Did Not Know Just How His Ride in the Lone, Light Engine Would End.

SAMMIE McCLAREN said afterward that he knew it was his off day the minute he reached the top of the stairs leading to the chief despatcher's office. And after he had walked the length of the gloomy hall, he was sure of it.

So when he cautiously pushed open the door to the chief's little office, he crossed his fingers tentatively before venturing into the room. The inside of the office reassured him, however. It was a narrow little room, with a desk in the center.

Behind the desk sat the short, fat little chief despatcher, and before the desk was an empty chair.

The chief did not look up when Sammie entered; but, as Sam himself would say, he was used to the bluffs of many chiefs, so he quietly took the vacant chair and waited. At last the chief raised his head from his desk and looked vaguely at Sam, or in his neighborhood. Sam squirmed uneasily in his chair and cleared his throat.

"How are you fixed for operators?" he asked.

But the chief continued to stare for a few seconds; then he suddenly swung around in his chair, jumped to his feet, and pattered across the floor, through a side door, and out of sight into what Sam took to be the trick despatcher's room.

"He's batty," muttered Sam to himself. "This is sure my unlucky day. I think I'd better put off askin' for a job till to-morrow."

But just then the chief returned with a message in his hand, which he was reading with some intentness; so Sam remained in his seat.

Sam took note of the fact that the fat little chief chewed tobacco in a manner that reminded him comically of a goat; and that he spat about him as he walked as if under some mental stress.

"He's Dutch!" observed Sam. "And that means he's a Jonah."

At last the chief looked up at Sam with a question in his glinting spectacles.

"How are you fixed for operators?" Sam repeated doggedly.

The chief looked surprised and pleased, which facts Sam noted as more signs of bad luck to follow. For he was used to chiefs that growl and grumble when asked for a job, and this departure from the usual Sam regarded with suspicion.

"Are you a telegraph operator?" asked the chief. "Well, sir, I believe that I can give you a job if you are. Let me see your service letters."

Sam produced a goodly sized bundle of letters, and placed them upon the desk before the chief. This showing of so many service letters was indiscreet in Sam, for but few chiefs like to hire an operator who has moved about too much.

"Well, well," murmured the chief, opening his eyes in mild surprise. "It seems you have plenty of them. A sort of boomer, eh? Well, let us hope that you will settle down and give good service."

"It's my bad luck," complained Sam, warming in spite of his suspicions. "I work just so long for a road, then something happens, and I'm fired."

"Of course, I knew that it wasn't your fault," smiled the chief. "You look like an industrious, conscientious young man, and I believe you intend to do right by us."

But as the chief read letter after letter,

he could not help but note that "discharged for sleeping on duty" appeared in a great many of them.

So, after unwinding yards of red tape preliminary to going to work, Sam was sent to a small station as night operator.

But here his bad luck, as he characterized it, still pursued him. There was little work to do at this night office, and he could not help but sleep on duty.

After bearing patiently with him for about two weeks, the trick despatcher told the chief things, and Sam was called back to the office.

Disgust and resignation were written on Sam's countenance as he again faced the chief despatcher in the narrow little office.

"It's no go," he complained despondently. "I've got a hoodoo in me some place."

The chief's eyes glinted a little behind his glasses as he looked up Sam's undersized person, but he seemed not greatly offended.

"I'll give you one more chance," he said deliberately, "and we'll see if your hoodoo remains with you."

Sam's mouth opened loosely. Never before in all his experience had a second trial been given him, and this change of procedure in the species was so startling that he forgot to be suspicious until it was too late.

"There is a small mining town out on the desert," said the chief, "in the opposite direction from where I first sent you. There I have a good night job for you. There's enough work to do there to keep you awake if you'll do it, and the pay is pretty good. In fact, it is a good job. Will you take it?"

"Sure," said Sam, not considering before committing himself.

"Your train will leave here within five minutes," went on the chief; "so you'll have to hurry to catch it. Here's your pass. Good-by!"

Sam took the pass and departed. But he was hardly started on his journey before his superstitious fears returned and began to cause him uneasiness.

"Gee!" he grumbled to himself as the train left the green, fertile country around division headquarters and began to roll out on the desert. "Gee! I didn't even have my fingers crossed when I accepted the job. Something's sure to happen. Wish I hadn't told him yes. If I had the two weeks' pay that's coming to me, I'd keep right on going."

After two or three hours of hot riding, Sam at last arrived at his station, and was left upon the platform, where he gazed about him. All around the little town there was nothing but desert and hills; and the heat of the noonday sun was blistering.

Not far away were the mine buildings, propped up into the hills; and across the track was the station building, with a huge black-and-white sign bearing the name of the town, "Sphinx."

After perceiving enough to fill him with disgust, Sam entered the small station, where he made himself acquainted with the agent; and that official explained matters.

He said that the regular night operator had quit, and that he needed another badly. He said, also, that there was nothing to do at night but — and here he cleared his throat and began in a sort of singsong to name over the things there were to do at night.

Sam listened to the recital for some time; then he took the agent firmly by the arm and shook him.

"Forget it!" he cried angrily. "I didn't come down here to be the handy man about town. Tell me where I can get something to eat, and then tell that chief despatcher to wire me a pass back to town. Say to him that I can't take this snap!"

The agent pointed out a little tent shack which, he said, was where they "fed people," and Sam went to lunch. When he returned to the station he found the agent busy with his reports, and on him Sam gave vent to his tortured feelings.

"That's a fine hotel you have over there," he said with deep scorn. "I had to go into the kitchen and wake the Chink cook before the meal was started, and then I had to worry the waitress for half an hour before she'd serve it. It's a funny town where a fellow has to work for everything he gets, then pay for it, too."

"The chief says he won't give you a pass," said the agent, with his nose in a big book. "Says you've got to stay here and take the job. Think's you'll like it if you get used to it."

"The chief says—what?" cried Sam, horrified. "Say, old man, tell me that again."

The agent repeated.

Sam kicked his battered suit-case under a table, and spat at it. Then he stood and gazed abstractedly out of the window for a few seconds.

"Said I had to stay here, did he?" he inquired at length. "Say, you're not kidding me? Said I had to stay in *this* town?" He took a long breath. "The next time I go into a chief's office, I'm going to have all my fingers crossed. I knew when I got on the train something was going to happen. You tell the chief that I wouldn't take this job if he'd give me a sworn statement that he'd fire me within the week. If I took the job, I'd be sure to make good!"

"You'll have to pay your fare back to town if you go," said the agent dispassionately. "He won't send you a pass, you know."

Sam took out his money and counted. He had about fifty cents.

"What's the fare?" he wanted to know.

"Two eighty-five."

Sam looked shocked.

"Say!" he broke out. "Was that ride I took from town out here worth two eighty-five? They sure hang it onto a fellow when they catch him in a God-forsaken country, don't they? Two eighty-five! Well, I'll just have to bump the conductor of the first passenger-train to carry me in on my face. When's the first train due?"

"It is due about five o'clock."

Sam looked uneasily about him.

"Say, don't you know I am very much afraid I'll get to liking it here if I stay," he complained; "and I'd rather never get another job in my life than to do that."

"THE CHIEF SAYS HE WON'T GIVE YOU A PASS."

The agent went on with his work silently.

Sam spent the remainder of the afternoon seated in a dark corner of the office with his fingers crossed. A great fear was upon him that he might become enamored of the place and decide to stay, and he was certain that if he did he would never see the outside world again.

The passenger-train arrived about five o'clock, stopping only long enough for the agent to load on some express packages which he had received from one of the mining companies.

Sam buttonholed the conductor as soon as that official had alighted from his train, and asked for a ride to headquarters, showing at the same time his service letters in proof that he was a railroad man.

The conductor grinned broadly when he saw the name on the service letters, and he brought from one of his pockets a telegram, which he handed to Sam.

The message was from the chief despatcher to the conductor, and read:

> Do not carry operator named S. McClaren from Sphinx unless he pays fare.

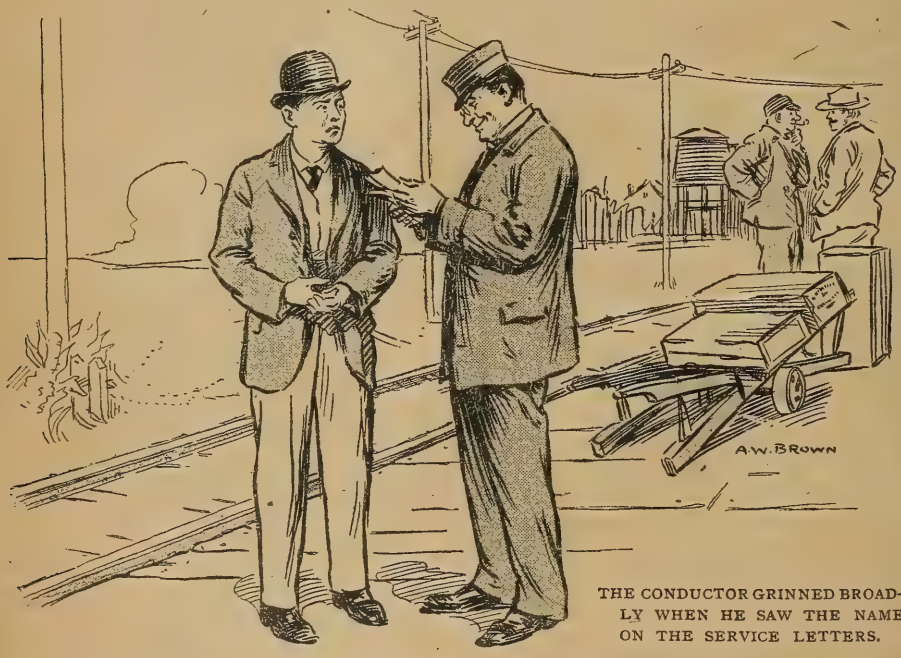
a sudden burst of hopeless anger flamed up in him. "I won't take this job!" he cried fiercely. "I'll walk out of town first!"

"Wouldn't the conductor carry you?" asked the agent as Sam entered the depot.

"Naw! The chief spiked him. When's the next freight-train due in here?"

"There's a freight due about midnight. None before, I guess. Better take the job."

"Nope! I'll try to catch that freight-train. If I miss her, I'll walk out of town."



THE CONDUCTOR GRINNED BROADLY WHEN HE SAW THE NAME ON THE SERVICE LETTERS.

Sam looked up from the message hopelessly.

"Say, con," he wailed, "don't it beat the dickens how a streak of bad luck holds out when a fellow just forgot to cross his fingers once? I suppose you won't carry me in now, will you?"

"Can't do it now," grinned the conductor. "If I hadn't received that message, I'd have carried you. But now I'd sure lose my job."

Sam's face was wrinkled into a mask of gloom as he watched the train wind away and lose itself in the desert.

"It sure do look like Nature was dead set ag'in' me," he said disconsolately, as he turned back toward the station. Then

Sam spent twenty cents for some food, and returned to the depot to eat it. He found the agent locking up for the night.

"There's no night-man here, you know," he explained to Sam, "so I have to lock up. We sometimes have a fellow here at night who keeps the light engines alive that come down here to take out ore-trains; but there'll be no light engine down here to-night, so there's no watchman coming on duty."

"Ore-trains," repeated Sam. "Do you have trains of ore out of here?"

The agent pointed to a siding full of box cars.

"You bet!" he said with pride. "Have two out of here every week, and some-

times more. When there's a train out in the morning, they send a lone engine down the evening before, and the engine-crew ties up till the train is ready. The watchman has to keep the engine alive during the night. He's not here to-night, you see. Won't be a train out in the morning. Usually have one out on this day of every week. I wonder if I told the despatcher there wouldn't be one out in the morning? Yes, I think I did. Good night."

Sam sat him down on a truck and consumed his meal in silence. There was a short twilight, then darkness, and Sam still sat there disconsolately.

After a while he was aroused by the sound of an approaching train.

"I wonder if that mut of an agent lied to me," he mused, as the train approached. "It's sure a train going toward town, and it's no more than eight o'clock. Well, if she's a freight, I'll try to hop her."

The headlight soon hove in sight around a line of buttes, and bore steadily down toward the station. It stopped at the end of the yards, however, and a few seconds later the switch-light turned. Then the engine puffed slowly into the siding, and came to a stop not far from where Sam sat. He saw then that it was a lone engine without cars.

After taking off their greasy overalls, the engineer and fireman slid down from the cab and walked toward the town, passing close to Sam as they went.

"I suppose that watchman is around here some place," Sam heard the fireman say as they passed. "I don't want the engine to blow up."

"He's likely over in town some place," answered the engineer. "He's heard us come in and will be here before long. He never did fail to show up."

Sam sat quite still for a long time after the two had disappeared in the darkness; then he slid thoughtfully to the platform.

"The agent did forget to tell the despatcher not to send down an engine," he soliloquized triumphantly, "and there's no watchman here to keep her alive. Some one's due to get into trouble."

At first Sam decided to let the engine be, and not interfere. Thus he would have some revenge on the fat little chief. But a new and better plan suggested itself, and he pondered it for a while.

"I'll just take the engine on into town myself," he chuckled, slapping his leg excitedly. "I'll show that chief who's who!"

He searched about the station for a while until he found a shovel. The blade of this he worked under one of the back windows of the office, and began to pry. After a little exertion, the catch that fastened the window broke with a snap, and the window raised clear of the sill. Then, with fingers tightly crossed, he crawled into the office and took his seat at the telegraph instrument.

He called up the despatcher and told him that the lone engine had arrived, but that there was no train to take out in the morning, and that the engineer wanted to go on to headquarters at once.

After asking a few questions, and expressing himself strongly on this waste of power, the despatcher issued running orders for the lone engine to run extra from Sphinx to headquarters, meeting two freight-trains and a passenger on the way.

Sam repeated the order, then searched diligently around on the wall till he found a switch-key hanging by the office-door. Then he crawled out of the window, took up his battered suit-case, and climbed aboard the engine.

He had ridden on an engine many times before in his life, and had once or twice run one while switching in a station-yard; so now he felt no fear as to his being able to run this one, although he might experience some difficulty in keeping her hot.

He climbed up on the right side, and after peering anxiously at the steam-gage and the air-gage, he released her, and sent her puffing slowly forward to the other end of the yards.

Soon he was out on the main line, and speeding down the track, with the lights of the little desert town vanishing behind.

"I wonder can I keep her hot?" mused Sam when, after setting a lively pace, he climbed down to peer into the fire-box. "She sure will take lots of coal."

He began shoveling energetically, and kept it up for a time. Then he slowed down long enough to go forward along the running-board and raise the headlight curtain, which the fireman had lowered before departing.

When he returned to the cab, he put on the fireman's overalls, jumper, and cap,

"so as to look like the real thing if I'm stopped," he grinned.

On he rumbled over the silent desert through the starlit darkness. He passed two lighted telegraph offices, and at both the light in the semaphore showed white. He found a time-card in the engineer's box on which he checked off the stations as he passed them, so as to know where to meet the opposing trains.

At the third open telegraph office, however, Sam encountered a stop signal set against him. He whistled for a clear board, but the light remained red.

"I wonder now what he'll be wanting," he grumbled as he slowed down. "Be like they've found me out, and are going to hang one on me. But I'll bet there's no one save the night operator in that office, and he can do me little harm."

He stopped the engine before the depot, slid to the platform, and strode into the office.

"What's your board out for?" he demanded of the operator, who hung sleepily over his instrument.

"Freight-train in the ditch on the other side of the next telegraph office," said the operator without looking up.

"The engine and half the cars slid off the bank. No one hurt, though. Despatcher wants to know if you can run down to the second blind siding from here and pick up Corbin, the general superintendent; Parks, the chief engineer of construction, and a couple of surveyors. They've been out on the desert doing some surveying, and rode into the blind siding just in time to miss the passenger-train bound for the city; so they telephoned in from a ranch to hurry something along to pick 'em up.

"Parks has got to reach the city in time to-morrow morning to attend a meeting of the directors, or there'll be the deuce to pay."

"That's quite a history," commented Sam. "But how do they expect me to get them around the wreck?"

"I dunno. Reckon they'll send an engine up from headquarters, or unhitch one from a freight-train, and send it up to meet you at the wreck, where it'll pick up the old man. Despatcher wants to know if you'll pick 'em up."

"Ask him if he thinks I'm running this engine for fun. Of course, I'll pick 'em up, if I can find them in the dark. Is that all?"

"Yep!"

Sam strode out, climbed aboard his engine, and puffed away into the solitude.

"Chief engineer of construction has got to be in the city by morning, has he?" he mumbled. "Well, he'll have to do a lot of hustling if he does. Wonder what I'll tell 'em became of my fireman?"

He kept the engine going at a good pace, passed the first blind siding marked by a sign-board on a post, on through the darkness, till the headlight revealed a man in the center of the track frantically waving his arms up and down. Sam slowed down and stopped, and four men, with their luggage and tools, climbed aboard.

"What's this?" asked the man who first climbed into the cab, and whom Sam took to be Corbin, the superintendent. "Where did you come from, and where is your fireman?"

Sam blinked owlishly in the gloom.

"My fireman is sick, and I left him behind," he lied. "The despatcher sent me down to pick you up. There's been a wreck on the other side of the next station, and I'm to take you down to it. An engine from the other side'll meet you there and take you on. One of you fellows will have to shovel coal if you want any speed."

Sam latched out the throttle as he spoke, and the engine shot away into the gloom. The two surveyors took turns at tending the fire, while the two officials perched themselves up on the fireman's seat and conversed together in low tones.

"I've got 'em buffaloed!" grinned Sam into the darkness. "Gee! I wonder what I'll do with the engine when I reach the wreck?"

It was not far to the next telegraph office, and here again there was a red light in the semaphore.

"I wonder what is the matter now?" grumbled Corbin. "Another wreck, or some other delay, I'll be bound."

When Sam stopped the engine before the station, all slid to the platform and entered the office.

"The despatcher says he can't get an engine up to the wreck for about two or three hours yet," the operator informed them. "The freight-engine that started

to meet you broke down on the hill, and the despatcher had to cut off an engine from the passenger-train that's behind the freight and send it on for you."

"Hasn't the wrecker been started out yet?" Corbin demanded.

"The wrecker left headquarters about thirty minutes ago, and is behind the passenger-train."

"That about settles it, Parks," said Corbin to his chief engineer. "You'll not be able to make it in time to put the proposition before the board, and they'll sure call the deal off because we have delayed so long."

"WHAT'S YOUR BOARD OUT FOR?" HE DEMANDED OF THE OPERATOR.

Silence in the office for a few seconds, then Corbin spoke again.

"We might as well run down to the wreck and see what's happening. Perhaps we can get things lined up for the wrecker when it arrives."

"The section-gang left here about fifteen minutes ago," said the operator. "They were bound for the wreck, so you'd better keep an eye out for them and not run 'em down."

The five left the office and took their places in the cab. Again the engine started on its way, and was soon roaring along over the desert.

The wreck had occurred at a place where the track curved around a lone butte at the top of a grade. A broken rail had evidently been the cause of the derailment; but, as the train had not been going at high speed on account of the grade, no great damage had been done.

When Sam brought his engine to a stop, a short distance from the wreck, all jumped and proceeded to examine things by the light of torches and lanterns.

"It looks bad, anyway," was Corbin's comment as he looked about.

While the others were examining the derailed cars, Sam went over the displaced track. This took but a short time, and then he ran off in search of the section-gang.

Sam soon had the section foreman at the torn-up track, explaining to him what he intended doing. The foreman listened, said that he understood, and forthwith sent one of his men to the caboose of the wrecked train to fetch a large cable that is always carried underneath a caboose in countries where wrecks are common.

When the cable was brought, Sam ran his engine as near the torn-up track as he dared, and the cable was hooked into the front coupling of the engine, then to the only derailed car, which remained in the road of those wishing to repair the track.

Then he slowly backed the engine down the track. The cable tightened, the derailed car faced slowly about, listed to one side, and then went over on its side clear of the twisted rails.

The crash of the falling car was the first notice the officials had that work of reconstruction had began, and they rushed back to the track to see what had happened. But when they arrived they saw Sam's engine slowly backing down the track away from them. Corbin cursed, and swore the engineer had gone mad.

But Sam had not gone mad. He had merely taken the section-gang and gone to a near-by tie-pile, where the men loaded on a few ties. Then back he came, and the ties were hastily unloaded.

Corbin thrust his head in at the side of the cab and demanded to know what was going on.

"I'm fixin' to take you on to division headquarters," explained Sam, "so your man can catch the flier from the other side which will get him into the city early in the morning. Now you watch me do it."

There had been perhaps fifty ties broken by the derailment, and about three rails on either side torn up. Two of these rails were still serviceable, but the rest were bent and broken so that they were useless.

Under the direction of the foreman, the broken ties and rails were quickly cleared away and new ties substituted—the new ties being placed as far apart as was consistent with any chance of safety. Thus placed, they bridged the gap in the track.

Then the men placed the two good rails upon the ties and began driving spikes frantically. When the two rails were spiked in place, the men hurried to the rear of the engine and began tearing up rails from the solid track.

When a rail was loosened, it was instantly carried forward to be placed in the narrowing gap; and when this rather flimsy track was complete, the train-crew of the wrecked train was aroused from their caboose, commanded to release the brakes of the remainder of their train, and let it roll back down the hill.

The trainmen and the enginemen obeyed when they learned whence came the order, and in a short time the part of the train that had not been derailed was gliding smoothly down the hill toward a little siding not far distant.

When they were well out of the way, Sam climbed into the cab of his stolen engine, and, while the rest looked on breathlessly, he ran the engine slowly onto the flimsy track. At every slow turn of the drivers the track sagged from side to side, but it held together till the engine crossed to the more solid track.

"Good for you, Mr. Engineer!" cried Corbin, as the four men climbed into the cab. "Now let her out at her best pace for headquarters, and we will try to keep her hot for you."

"What about that light engine that's coming to meet you?" asked Sam as he opened the throttle. "We may meet her between here and the first telegraph station."

"Let her out anyway, if you're not afraid to take the risk," ordered Corbin. "We'll try to keep a lookout for her. We ought to be able to see her long before we get into her on this flat country."

Away they shot, Sam crouching among the levers, the fingers of his left hand carefully crossed on the throttle, his little eyes gleaming with excitement as he searched the path of light ahead for a sign of obstructions.

As they shot by the unwrecked half of the freight, the crew swung their lanterns high in air and shouted encouragement.

Corbin and Parks crouched on the fireman's seat, keeping a sharp lookout for opposing trains, while the two surveyors toiled at the furnace. Sam seemed to have gone mad with excitement, and he drove the engine forward at ever-increasing speed.

At last he sighted the lights of the next station, but even here he seemed reluctant

to stop. He drove down upon it at almost full speed, and when he did put on the air, Corbin and Parks were tossed up on the boiler-head, and the two surveyors groveled in the coal.

Once in the telegraph office and in communication with the despatcher, Corbin ordered the track cleared for his light engine. Soon they were all in the cab again with the required orders, and the race to catch the Overland was resumed.

That race was a masterpiece of luck and nerve. Sam seemed to lose all sense of fear or judgment as he clung to the wide-open throttle while the engine careened dizzily around sharp curves or shot down long grades. Every one hung on as best he could, but the two amateur firemen had the hardest time.

With but little coal or water left, Sam brought the lone engine into headquarters a few minutes before the Overland arrived. As Corbin swung off the engine, he called back to Sam:

"Come up to my office to-morrow! I want to see you!" and then dived into the big station after his chief engineer.

"I will—nit!" grinned Sam as he watched the super go. "If the company will give me my two weeks' pay, I'll not be bothering them any more. I'm through with this business for a while."

"I WON'T HAVE SUCH A MAN AS YOU ON THE DIVISION."

He ran the engine down into the yards and hailed a passing switchman.

"Hey, terrier," he called to the switchman, "come take this engine into the roundhouse! I'm all in, and sick besides. I brought the engine most of the way from the other end of the division without a fireman."

After the usual grumble, the switchman took the engine, and Sam, with his battered suit-case, slipped away into the dark to find a park-bench to sleep on.

The next morning, Sam again climbed the stairs to the chief despatcher's office. He looked a little more battered and

crumpled than was his wont, and his fingers were a little more tightly crossed than was usual on such occasions.

He entered the chief's office without knocking, slumped into the chair before the chief's desk, and stared vacantly before him.

The chief looked up, and his little eyes widened with surprise.

"Well," he said sharply, "how did you get here?"

"I came in by the air-line," said Sam dispassionately. "I want my time."

The chief looked thoughtful.

"How would you like—" he began.

"No! I won't take any more of your snaps!" cried Sam fiercely. "Come through with my time, and I'll call it square."

The chief sat silent, as though listening for a few seconds; then, as he had once before done when Sam was in the office, he swung around in his chair and pattered into the trick-men's room.

"He must hear the message when it's coming in," mused Sam.

As before, the chief came back presently with a message in his hand. Even more than usual, the message seemed to excite the little chief.

"This blamed division of mine is going to the bad," he complained. "Some one went and stole an engine from Sphinx last night. They'll be stealing a whole train next."

His little eyes wandered about the room in search of something to vent his anger on, and they fell upon Sam.

"You're discharged!" he shrieked, waving the message in the air. "I discharge you now! I won't have such a man as you on the division!"

This was the way chiefs usually acted toward Sam, and his superstitious feelings were lulled to rest. He was sure now that he would get his time.

"Don't do anything rash, chief," he grinned. "You give me an order for my time, and we'll say good-by."

"You'll have your time right now!" shrilled the chief. And he sat down at his desk, drew out a form, and, filling it out, handed it to Sam.

Sam took the paper and scrutinized it carefully, as if looking for flaws. Just then the door opened. In walked Corbin.

"Hallo, Mr. Engineer!" he said to Sam genially. "Telling the chief about our phenomenal run last night? That was a good one, you bet. Say, chief, didn't we break all records on this mountain end?"

Sam slowly folded up the slip of paper and put it into his pocket.

"I have just discharged this man," smiled the chief uncertainly. "You must be mistaken about him, Mr. Corbin."

Corbin suddenly became cool and calculating.

"Discharged him! Since when have you had the authority to discharge an engineer?"

"Engineer, Mr. Corbin? I thought you were mistaken. This fellow is an operator, and was in our service. I have just discharged him."

Corbin looked at Sam for a few seconds in silence.

"For Heaven's sake, my friend," he said, "tell me how you happened to be running that engine last night?"

Sam calculated the distance to the door, but wavered. Vanity and a wish for revenge on the chief caused him to say: "I'll tell you, if you'll swear never to blacklist me or have me arrested."

Corbin promised, and Sam told him the story.

Corbin laughed shortly when Sam had finished. The little chief was very red in the face.

"Well," said Corbin, "we still owe you something for getting our construction engineer to the Overland in time. Do you want another job on this division?"

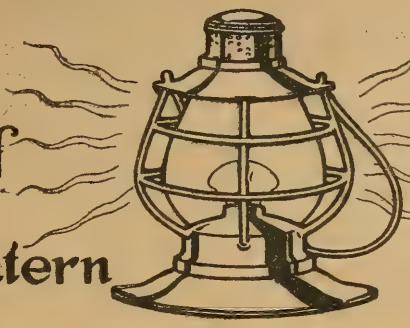
Sam positively did not.

"I'd rather go to jail," he said. "But if you'll give me a pass to the city, I'll be much obliged."

He got the pass.

WHAT'S THE ANSWER?

By the Light of the Lantern



Questions Answered for Railroad Men

ASK US!

WE like to be as useful to our readers as we can; but, because of the great popularity of this department, we are forced to impose certain restrictions. In future, we shall be compelled to limit its scope to the answering of questions of an informative, technical, or historical nature only. Letters concerning positions WILL NOT be answered in this department.

PLEASE inform me the length of the new locomotive just built for the Atchison, Topeka and Santa Fe Railway, which is supposed to be the largest passenger engine in the world.

(2) How is water taken on the fly by locomotives?—H. B., Donora, Pennsylvania.

(1) You refer, no doubt, to engine "1300," recently completed at the Baldwin Locomotive Works for the road mentioned, and of which a description and illustration appears in the January magazine. It is not the largest engine in the world, but, as you infer, can readily be identified as the largest intended solely for passenger business.

The total driving-wheel base, or length between centers of the front and rear driving wheels, is thirty feet four inches. We have no official dimension for the total wheel-base, or the length over all of the engine proper, which latter represents the information desired by you, but from the other dimensions which we have, an estimate of fifty-five feet, for the length of the engine proper, would not be much in error.

For the engine and tender a total length of about eighty feet would be indicated. The weight on drivers of this engine is 268,000 pounds, and the total tractive effort, 33,000 pounds.

It is therefore much inferior in size and power to the monster "4000" of the Southern Pacific, described in the Lantern Department of the December number. This latter, however, is exclusively a freight-engine, and does not interfere with the claim made for the "1300."

(2) In order to save time on fast runs by filling the tender of the engine while the train is in motion, it is necessary to lay down a track tank on a perfectly level stretch of track, one-half to three-quarters of a mile long.

This tank is simply a shallow iron trough, very similar to that which is an auxiliary to coal delivery-wagons in cities, say eight inches deep, and twelve inches wide, kept supplied with water from the ordinary water-tank, one of which is usually located at either end of the track tank, and with automatic control to always maintain the height of water in the latter at the desired level.

The apparatus on the tender for scooping the water is simple, consisting merely of a scoop under the center of the tender

to fit the track trough. The end of this scoop is continued by a pipe which turns up behind the end of the tender and finally empties down into its interior.

When it is desired to take water the scoop is dropped into the tank, either by a lever or a piston operated by compressed air. The mouth of the scoop, having, say eight inches vertical opening, drops four inches into the water, and the speed of the train over the trough results in the water being forced readily into the tender.

Proper signals by day, and lights by night, are placed to indicate the points where the scoop should be lowered or raised to avoid damage.

ARE any female engineers running engines in the United States, and if so, how many?—E. M. B., Wheeling, West Virginia.

None, of record. There is a story, however, current in your own section, at the time when the editor of this department fired an engine for a living, that a woman operated the sole locomotive on the branch from Volcano Junction to Volcano, West Virginia.

This little railroad, a very few miles long, abutted from the junction mentioned, about midway of the famous old "Fifth Division" of the Baltimore and Ohio, which, with its twenty-three tunnels and seventeen bridges, or vice versa, extends from Grafton to Parkersburg, a mosaic on the main line of that road's St. Louis and Cincinnati line.

There is no wilder country now, in all the expanse this side of the Mississippi, than this historic section, and this was twenty-five years ago. The thought was never recalled until awakened by the receipt of your letter, but there is now a lively recollection that a woman did have charge of this ancient Volcano engine, in the dual capacity of engineer and fireman.

Perhaps some of our Baltimore and Ohio friends in that section will confirm this reminiscence. We do not know even whether the old Volcano Railroad has passed away, but certainly this story must have had some foundation in fact.

R. M., Upland, Indiana.—We don't seem to locate any announcement or advertisement of the valve-gear which you mention. Address *Railroad Age Gazette*, New York or Chicago, for the paper wanted.

M. B. T., Oklahoma City, Oklahoma.—Straight air in use braking trains is confined to the locomotive, otherwise the indispensable automatic feature would be lost. It is very effective, when properly handled, in bunching the slack, before the automatic brake is applied.

WHY is it that a locomotive or car-wheel tire is wider than the upper surface of the rail, or vice versa? Why are they not made the same width? I have noticed old wheels, on old locomotives and cars, and there is always present an ugly, uneven groove on the tire of the wheel. Would it not be better to have the tire wear down even by having an equally as wide rail and wheel-tire?—V. C. Y., Los Angeles, California.

If the tires were not wider than the upper surface of the rail, the vehicle which they were under would be derailed in rounding curves. For instance, taken an engine of but fifteen feet six inches rigid wheel-base, and although we have many examples in this country longer than that, the tires on the two middle drivers of this engine are nevertheless nearly off the rail in rounding a twenty-two-degree curve, even though the tires are six inches wide.

Of course, a twenty-two-degree curve is exceptional in railroad construction in this country, but it is well to have exaggerated conditions to emphasize the statement. Always bear in mind that the driving wheels of a locomotive are rigidly spaced in relation to one another, and that there can be no flexibility of movement between them.

The entire arrangement, so far as the total driving wheel-base is concerned, moves in a straight line, no matter whether the track over which it moves is curved or not. It merely remains for you to lay down on paper two curved lines, representing a portion of track, and within these lines place a straight stick or rule, to appreciate what would happen if the tires and rail-heads were of the same width.

The groove which you mention is natural wear. It is allowed to reach certain proportions, say eight thirty-seconds of an inch deep, when the tires must be removed and their tread returned in a lathe to the standard contour.

E. F., Lansing, Michigan.—Your question regarding the best practise in the spacing of fence-posts has awakened so much discussion among the various roadmasters to whom it has been submitted, that we cannot answer in any way which would be of value to you. Would suggest that as the peculiarity mentioned seems to be confined to your section, inquiry be made direct of some roadmaster or supervisor.

There is no doubt some good reason why they should be spaced as closely as you say, and we would also appreciate the information, as we have a natural lively interest in these matters.

There is nothing to be gained in lubricating journal-boxes on cars from the locomotive; rather, an endless confusion would result. There are enough auxiliaries on a locomotive now to harass a man who has about all he wants to do to watch the water and the signals. Ample provision is also in evidence for each journal-box to be self-supporting on the road, and although the hot-box question may still be called a problem, it is really nothing from the view-point of the vast number of boxes which run every day without heating.

The plan which you propose, from your brief description, would imply the direct application of oil to the various journal-boxes from a reservoir on the locomotive, and when it is recalled that on a fifty-car freight-train there are four hundred boxes, it may be imagined that the expense attached to this operation, even if practicable, would render the scheme prohibitive. As it is now, the journals and boxes are generously proportioned to sustain their percentage of the total load, and to provide the proper area of lubrication for the bearing surface.

They are surrounded practically by saturated packing, and capillary attraction, through the packing strands, secures adequate and uniform lubrication. As a rule there is only one, or maybe two, hot boxes on a train at the same time, and we cannot imagine what system of piping you could devise to enable these hot ones to be individually treated from the locomotive without deluging all the others with oil which they do not need.

WHAT is combustion, and how is it obtained?

(2) Is a tandem-connected engine one whose eccentrics are not on the main axle?

(3) Where can I get a book on steam heat, as used in passenger-train service?—J. H. M., Marion, O.

(1) The act of combustion, as well defined in the instruction book issued to its firemen by the Erie Railroad, results "from a strong natural tendency which oxygen and carbon have for one another, the carbon being the fuel, and the oxygen the supporter of combustion, but they cannot unite freely until a certain high temperature is reached, when they combine very rapidly, with violent evolution of light and heat."

There are other forms of combustion besides that known as burning, the rusting of iron and the explosion of gunpowder being examples respectively of very slow and very rapid combustion. Oxygen is the most abundantly diffused element in nature.

It is never found existing in a pure state, but in combination with all other elements except one. Eight-ninths of all the water on the globe, by weight, is oxygen, and nearly one-fourth of the weight of the atmospheric air is oxygen. The fuel used for steam making is composed of carbon, or the compounds of carbon and hydrogen.

Carbon is the principal element found in trees, and in all woody fiber, and is the fundamental ingredient of all kinds of coal. The ordinary run of American bituminous coal contains from 50 to 80 per cent of fixed carbon, which makes the coke, and from 12 to 35 per cent of volatile substances, which burn with a lurid flame and supply the ingredients of coal gas.

These inflammable compounds are known as hydrocarbons, being combinations of hydrogen and carbon. Anthracite coal differs from other coals in the fact that it contains principally fixed carbon, with but little volatile matter.

Good anthracite contains as high as 90 per cent of pure carbon. Having mentioned the leading elements which take part in keeping a fire burning, the following is the action which takes place in the fire-box of a locomotive:

When the air, drawn violently through the grates by the suction of the exhaust, strikes the glowing fuel, the oxygen in the air separates from the nitrogen, and combines with the carbon of the coal and the hydrocarbon gases distilling from the coal, which have intense heating properties.

One pound of carbon, uniting with oxygen to form carbon dioxid, generates 14,500 units of heat, or sufficient to raise eighty-five pounds of water from the temperature of the tender tank to the boiling-point. When a fire-box is properly fired, and is burning good coal, with admixture of twenty pounds of air to each pound of coal consumed, the fire-box temperature will be about 2000 Fahrenheit.

The question of combustion is rather too extensive to discuss within the necessary space limitations of this department, but it is nevertheless one of supreme importance to railroad companies, and of late practically every road is making efforts to educate its firemen to an appreciation of the scientific principles involved. This is especially to the point when a person stops to figure what the outcome to the company would be if each fireman was to save, say, twenty-five dollars monthly in coal.

There is no doubt but that this could be easily done, as assuming coal to cost the railroads no more than one dollar per ton, there is certainly twenty-five tons wasted by a great many indifferent firemen each and every month. On a road having 1,500 engines this would amount to the comfortable sum of $500,000 per year, and may be taken to represent the difference between success and failure in the proper firing of locomotives.

(2) A tandem locomotive is essentially one of the compound type, and is so designated because cylinders are placed tandem fashion, the high-pressure cylinder ahead of the low-pressure. The position of the eccentrics is no different than on any other type of engine, generally on the main axle, although there is no reason why they should not be located on the second axle.

(3) We appreciate the difficulty you have experienced in locating a simple handbook on the operation and care of the steam-heat line, as we have not been able to find anything of the kind in the technical bookstores. Each railroad, however, issues a manual on the subject for the information of its own employees, and possibly you can secure one of these from a friend in the business.

H. F. W., Minneapolis, Minnesota.—Any vehicle in rounding a curve, whether car, locomotive, or automobile, tends toward the inside or short side of the curve, and if the speed is high and the curve short, this inside becomes to all intent and purpose a pivotal point, thus inducing the liability for the wheels on the outside to rise from the ground or from the track. A compensating feature, in the instance of railroads, is afforded by the elevation of the outside rail of the curve, and this is equally applicable to banking the turns on automobile speedways.

G. E. F., Grand Rapids, Michigan.—We cannot advise definitely at this writing what railroads waive the color test in the examination of men employed as telegraphers, but will endeavor to give information next month.

WHAT is the name of the "R. and H. R. R.," and in what part of the State of New York is it located; also, the gage of track and the number of locomotives in use on this line? Am unable to find this information in the official railroad guide.—J. H. R., Rochester, New York.

There is no railroad of the designating initials which you quote in New York State. The nearest to it is the "B. and H.," or Bath and Hammondsport Railroad, and we imagine that this must be the one you mean. It runs from Bath, New York, on the Rochester division of the Erie, to Hammondsport, New York, at the head of Keuka Lake.

Although considered to be an independent line, it is really controlled by the Erie. It is standard gage, four feet eight and one-half inches, and has two locomotives of its own, in addition to an Erie engine, which is generally detailed there to help out. The length of this road is ten miles. If it is not the one on which you desire information, let us know, and we will try to go deeper into the quest.

IN your January magazine I notice in an article—"an attempt was made to shunt three Lackawanna cars onto a trestle at Newark, etc." I have been railroading thirteen years, and haven't heard of "shunt" before. Will you endeavor to tell me what "shunt" means, and how it is done?—H. N. P., Billings, Montana.

"Shunt" simply means to switch. It used to be a common application to this operation, even in the book of rules of many railroads up to a comparatively recent period. In England, and her possessions, switching engines are shunting engines, and all switching movements as you understand them are shunting.

This word is tabooed in American railroad practise, and the editor of this department never employs it herein, but whoever wrote the article referred to, in which you noticed it, was entirely within his rights, as it is permissible in story-writing and special articles.

PLEASE explain which wheels on either side of an engine revolve the fastest in making a curve on the road?—J. H. M., Duluth, Minnesota.

They both revolve at the same speed, which they logically must, both being on the same axle, and each pair maintained at a rigid distance from the next pair, on account of the driving boxes and frame pedestals. Of course the wheels on the outside, or long side of the curve, must go over a greater apparent distance than those on the low or inside, but it is advanced that there is a slight drag or slip in the instance of the wheels on the inside of the curve.

This premise and the fact of the tires being tapered to allow the wheels on the high side to run on their largest diameter permits the rounding of the curve, no matter how long the rigid wheel-base of the

locomotive might be, if, of course, within reason.

HOW many steam roads enter and leave Chicago? I do not mean systems, but steam lines under different names.—L. J. L., Twin Falls, Idaho.

Thirty-eight railroads. If you will send your address will forward the complete list by mail; too long for reproduction here.

P. B. A., New York, New York.—The Union Switch and Signal Company, Swissvale, Pennsylvania, were practically the pioneers in the development of the electric automatic block signal. This is an American invention, but we cannot say to what genius in the employ of that company the idea should be credited. Would suggest that you write them for that portion of the literature which they issue, concerning their various outputs, which deals with the history of electric signaling.

Electric block signals were installed by the Old Colony Railroad, now a part of the New York, New Haven and Hartford, in 1890, and this is the earliest application of which we can find any record. In brief, electric automatic block signals are controlled by electro-magnets, actuated by an electric current flowing through the rails of that portion of the track which constitutes the section to be protected.

From a battery at the outgoing end of the section the current flows through the right-hand rail to the signal at the entering end; thence through the coils of a relay at that signal, and back through the left-hand rail to the battery. The track being free from all vehicles the relay is energized by the current, and by means of a magnet holds the signal in the safety or "all clear" position.

The presence of a train, or car, in the section, deenergizes the relay by making a short path for the current through wheels and axles, from one rail to another, and thus allows the signal to change by gravity from all clear to the "stop" position.

WHAT part of a drive-wheel on an engine does not turn when the engine is in motion?

(2) Will an injector work with the check on the top of the boiler?—J. W., Leavenworth, Washington.

(1) The exact center, which position, of course, would be the center of the axle on which the driving wheel is mounted. The only movement possessed by this point is progressive, dependent upon, and in the same ratio with the speed of the vehicle or locomotive on the rails.

(2) The pressure opposing the working of the instrument would be the same with the check so arranged as though the water entered below the water level in the boiler, but as all injector checks leak to a certain extent, which, though slight with water, would be very prominent with steam, the working of the injector would be affected, with the results quite unsatisfactory.

Even if this were not a consideration, it would be absurd to so arrange a check, as the effect of the relatively cold water, discharged into the live-steam space of the boiler, would certainly operate against the free steaming qualities which locomotive boilers, above all other types, must undoubtedly possess to meet the stringent demands upon them.

PLEASE tell me the derivation and meaning of "ex.," as used in the following illustration: "One case porcelain ex. S. S. China," etc.

(2) Has any attempt ever been made to muffle or silence the exhaust of locomotives?—P. J. F., New York, New York.

(1) The general freight-agent of a prominent railroad advises that it means "out of," or "from," as "One case porcelain out of S. S. China."

(2) It has never been really regarded as a necessity, except in the possible instance of steam motors, which are at times to be found pulling freight-cars about cities, or in such environment where the noise of the exhaust might prove a real objection. It would be a matter of impossibility on a modern, high-speed locomotive, with the draft appliances arranged as at present, to bring about a muffled exhaust. It is necessary that the exhaust leave the stack free and unimpeded, and with considerable violence, in order that the proper vacuum be induced in the smoke-box and flues to promote combustion.

Instances where exhausts have been successfully muffled are afforded in the steam motors which operate at night in the streets of Boston, transferring freight between the north and south terminal stations; in fact, we believe that the law in some sections makes it compulsory that whenever steam locomotives are employed in cities, the exhaust feature shall be so treated.

L. J. B., Fowler, Colorado.—The argument advanced as to why the wheels of a locomotive on the low side of the curve should slip a trifle when the entire machine

is rounding a curve, is based largely on the fact that the wheels on the high, or outside, have a greater distance to cover than those on the inside, before the curve returns to the tangent. We know that in the instance of any curve, of high or low degree, that the outside rail is some longer between tangents.

If the engine is, say, of seventeen feet rigid, or driving-wheel base, this means that from the center of the leading driving-wheel to the center of the rear driving-wheel, will always measure seventeen feet, for either side of the engine, no matter whether a curve is being rounded or not.

As each pair of wheels, being mounted and keyed on same axle, must revolve at the same speed, irrespective of whatever condition of track may be present, it is logical that to compensate for the apparently additional ground covered by the outside wheels there must be a slip or drag, to a small degree, on the part of the series of wheels on the inside rail. This does not mean that these wheels slip in relation to those on the opposite side, but that they slide just a trifle on the inside rail.

This is the presentation of the matter which we can recall having heard more than once from the lecture platform, but, personally, we do not believe that this slip exists. It would appear, properly viewed, that the progress of the locomotive around the curve is in an absolutely straight line, so far as its rigid wheel-base is concerned; a series of straight lines, to better explain, as, owing to the elevation of the outside rail, it is being continually dropped to the low rail.

For instance, it runs straight until this movement is impeded by the contact of the front driving-wheel flange on the high side with that rail. This contact drops it to the low side, giving it another chance to run straight until the condition repeats, and so on until the curve is rounded.

This view, we think, is borne out by the spread given the gage of the track on curves; the excessive width of the tires over that of the rail-heads, and the closer spacing of the tires on the front and back drivers over those on the middle drivers, but we do not insist upon it. It is one of the most interesting problems connected with the locomotive. The wheel-base of car trucks is so comparatively short that the question scarcely comes up in that instance.

KINDLY inform me what is the best solution for keeping dies cool in bolt-threading machine.

(2) What is the best solution to use in tempering dies?—C. H. L., Ottawa, Kansas.

(1) Lard oil is used extensively in the larger railroad shops for this purpose, and it has many advocates, but its use is questionable. One particular objection which appeals to us is its tendency not to run freely in cold weather. The end to be sought in all lubricants for bolt-threading machines is not so much the quality of the lubricant, but to get it where it belongs, to the cutting edges of the dies.

The editor of this department conducted experiments covering a considerable period to determine the best solution for this purpose, and could find nothing better, or even equivalent to Monarch oil. It was proved during these tests that this oil not only keeps the dies from heating, but accomplishes extremely gratifying results in minimizing the wear of the dies as well.

(2) There is only one proper way to do this: Dip the die, or tap, after heating to cherry red, in water, and then draw the temper to a straw yellow. Do not lose sight of the important fact that there should be at least one-half an inch of oil on the surface of the water; this to prevent any cracking of the steel.

Endless experiments have been made with solutions for the purpose which you name, but it has been found in the long run that the intelligent use of oil-covered water, as outlined here, is the most effective after all, and we don't hear much of baths and solutions these latter days.

B. R., Grizzly Bluff, California.—Would suggest that you take up the question of metal saws with Fairbanks, Morse & Company, Chicago, Illinois, as our sources of information regarding the sizes and price of these implements are somewhat unsatisfying. We feel quite sure that this company will be pleased to furnish you with full information.

In regard to the cost of new locomotives: This varies, of course, dependent upon what locomotive builders have to pay for the stuff which enters into their composition. This is variable to a greater degree than might be looked for in a presumed well-regulated business. For instance, we have in mind a railroad which one year paid $20,000 each for a number of large size, up-to-date, Pacific type passenger engines, and the very next year secured several duplicates of these engines, and with some improvements added, for $17,500.

This latter quotation, however, is very low for this type of power. Broadly speaking, $18,000 represents the cost of all classes of power of the present day, unless some unusual type is under consideration, such as

an articulated compound, when it may rise to $25,000. These figures, however, will no doubt serve in furnishing you with the general information desired.

ON a train a mile long, moving at the rate of a mile a minute, two men are standing—one on either end. The man at the rear has a gun which can discharge a bullet at the rate of a mile a minute. Can he shoot the man on the front end of the train?—N. D. M., Butte, Montana.

It would be the same as though the victim had been fired at on stationary ground, and it can be reasoned, did space permit, that all features involved, viz., the two men, the train, and the bullet, bore the same relation to one another as though the incident had not transpired on a moving object. This is a question, whether in this guise or not, which always invites the liveliest comment, and the editorial carpet and puzzle department have frequently thrashed over the pros and cons of it.

WHAT railroad systems, in the United States, have so far installed the telephone system in despatching trains?—A. R., Florence, Kansas.

The low-grade division of the Pennsylvania, between Columbia and Parkersburg, Pennsylvania, a distance of thirty-eight and four-tenths miles, has been operated by telephone, supplemented by block signals, since August, 1906. The average number of trains handled daily on this section of the road is ninety-five. The Lake Erie, Alliance and Wheeling is operating its line of one hundred miles of single track, by telephone exclusively, and has been doing so for some years.

The Chicago, Burlington and Quincy, during the early part of 1908, installed the telephone for despatching service on its main line between Aurora and Mendota, a distance of forty-six miles; Aurora and Chicago, a distance of thirty-seven miles, and between Aurora and Savannah, a distance of one hundred and eight miles.

In addition to the roads mentioned, the following large roads are installing telephone despatching systems, and expect to operate by this system exclusively: The Illinois Central, the Lake Shore and Michigan Southern, the Canadian Pacific, the Chicago, Milwaukee and St. Paul, the Chicago and Northwestern, and the Northern Pacific. Other roads, among which may be mentioned the Delaware, Lackawanna and Western; the Erie, the Baltimore and Ohio, the Seaboard Air Line, the Southern, the Delaware and Hudson, the Queen and Crescent, the Michigan Central, and the Union Pacific are making investigations of telephone despatching, and may install such systems.

We regret that we are unable to advise you definitely in regard to what the Santa Fe has done along these lines, as our records unfortunately are not clear. You might take the matter up with Mr. L. M. Jones, assistant superintendent telegraph, Topeka, Kansas, who will no doubt accommodate you with the information desired.

T. K., Alpaugh, California.—We do not know of any what might be called standard railroad watches anywhere in this country; that is, watches which a railroad might insist on its employees carrying. This would savor a little too strongly of graft, and railroad men are quick to appreciate such things. It is safe to say that any good American movement watch, certainly one of nineteen jewels, will pass the ordinary watch inspector.

Any one of the various makes which you may have noticed advertised to pass such inspection will as a rule do so, as the claim would not be made if they did not possess the necessary adjustment features and jewels to put them through. We are not in possession of the names of the watch inspectors of the two roads you mention, either at San Francisco or Los Angeles.

As a rule, these inspectors are merely jewelers doing business in the towns along the railroad, to whom the employees must take their watches for examination at periodic intervals. A certificate is then issued covering the time to intervene before the next inspection, and this certificate is forwarded to the division superintendent for file and record.

GOING NINETY MILES AN HOUR.

It May Be Possible To Make the Run Between New York City and Philadelphia, in the Near Future, in One Hour and Forty-Five Minutes.

THERE are few, if any, cities in the United States which can boast of an intercommunicative train service superior to that maintained by the Philadelphia and Reading Railway and the Pennsylvania Railroad between New York and Philadelphia. The fastest trains on both roads make the run in two hours, and as this includes the time required to ferry passengers across the Hudson River, the distance of approximately ninety miles between Jersey City and Philadelphia must be covered in about one hour and forty-five minutes. Including stops, of which at least two are always made, the average speed is thus about 50 miles per hour.

Train No. 602 leaves Philadelphia at 8.00 A.M., and is scheduled to stop at Columbia Avenue, Wayne Junction, and Elkins Park, the last named a suburban station 9.2 miles from the Philadelphia terminal. The 81 miles from Elkins Park to Jersey City are scheduled to be run in 89 minutes, equivalent to 54½ miles an hour. In the present instance the train was composed of one combination baggage and smoker, one coach, one diner, and two Pullmans, estimated to weigh between 275 and 300 tons.

The engine was No. 303, a three-cylinder, single-expansion Atlantic type with superheater. The cylinders are 18½ x 24 inches, and the drivers 80 inches in diameter.

Slowed Down Several Times.

Previous to its arrival at Elkins Park, the train was slowed several times, and it left the station at 8.24 instead of at 8.19, as per schedule. The locomotive accelerated rapidly, and Bethayres, six miles from Elkins Park, was passed at a speed of nearly 82 miles per hour. Between this point and the Delaware River there are a number of favorable stretches for high speed, and the maximum recorded was 42 seconds to the mile, equivalent to 85.7 miles per hour.

At mile-post 60 speed was reduced to scoop water, and the train started up the grade of 37 feet per mile, east of the Delaware River, at about 50 miles per hour.

This grade is easier toward the summit, where the slope is 19 feet per mile; its total length is about five miles, and the summit was passed at a speed of nearly 60 miles per hour.

On the favorable stretch east of Hopewell the speed increased rapidly, and at three points reached 90 miles per hour (40 seconds per mile). Near mile-post 33 a sharp reduction took place, incident to crossing the Lehigh Valley tracks at grade, and running through the junction of the Reading's New York branch and the Central Railroad of New Jersey. Bound Brook was passed at moderate speed, and the remainder of the run calls for no special comment. Jersey City was reached, in advance of schedule time, at 9.43.18.

This Is Going Some!

The following facts are worthy of note:

The highest speed recorded was 90 miles per hour.

The 17 miles from mile-post 77 to mile-post 60 were run in 12 minutes 56 seconds, at an average speed of 79 miles per hour.

The 12 miles from mile-post 46 to mile-post 34 were run in 8 minutes 13 seconds, at an average speed of 87.6 miles per hour.

The 49 miles from Elkins Park to mile-post 32 were run in 41 minutes 34 seconds, at an average speed of 70.7 miles per hour.

The entire distance of 81 miles from Elkins Park to Jersey City were run in 79 minutes 18 seconds, at an average speed of 61.4 miles per hour.

If the average speed of 70.7 miles per hour had been maintained for the last 32 miles, the train would have reached Jersey City at 9.32.42. This fact certainly suggests the entire possibility, if not the feasibility, of running from Philadelphia to New York in one hour forty-five minutes, including the ferry across the Hudson.

This run was, of course, made without special preparation, and took place on a snowy morning with a consequently wet rail. It is of special interest in that if was performed by an experimental locomotive, possessing features new to American practise. The engine accelerated the train rapidly and appeared to handle it with great ease.—"Eagle Eye," in the *American Engineer and Railroad Journal.*

TAGGED BY CUPID.

BY HARRY PENCE.

Interstate Commerce and Two Happy Hearts Laugh at Law and Locksmiths.

SHE was beaming with the joy of life, this very pretty young woman who boarded No. 11, at Eastley, and the glow of her face became a radiance when she shook hands with Bob Gurney, the veteran conductor on that division of the R. S. and T.

She had a big bouquet of flowers for him, too, which he accepted with even more than his customary cordiality. He led her to the most comfortable spot in the car, and they chatted gaily every moment he could spare from his duties till she arrived at Rigdon.

I had made the trip often and knew Gurney well. In fact, I always looked forward to the ride because this prince of good fellows nearly always had a new story, and a bunch of diverting conversation which beguiled away the time, but this day he looked over at me with an expression on his face which declared that his excuse for neglecting me was evident and sufficient.

"Whose's your friend?" I asked, as we pulled out of Rigdon.

There must have been a suggestion of impudence in my voice.

"See here," he said, at length, "I know you and know you don't want to get gay. Of course there are a great many misguided young women who are dazzled by the glare of a uniform and don't seem to care much whether it is worn by policeman, fireman, or soldier. They are usually too silly to be allowed to live and are an eternal nuisance. This case is different, and, to knock any absurd ideas out of your head, I'll tell you the whole story.

"Five years ago to-day, I was making this same run, and at Gowan Station went into the telegraph-office for orders. There wasn't any, but Jasp. Ledley, the operator, said to me,

"'You've got a runaway couple on board, ain't you?'

"I didn't know and didn't care. It was not unusual, for, when Old Squire Ball was alive, Holdenburg, Indiana, just across the river from Trumanville, Kentucky, was a regular Gretna Green.

"Eloping couples from all this part of the country went to Holdenburg and the Old Squire tied the knots for them at all hours. I carried such couples nearly every trip, and they had long ceased to be a novelty. I told Ledley so.

"'Well,' he explained, 'this seems to be a somewhat unusual pair. A message just passed over the wire to the chief of police of Trumanville, telling him to search this train and arrest Agnes Downey, who is headed for Holdenburg with George Hopple.'

"I went back to the train and soon spotted the couple. She was a beauty, and I rather liked his looks. It was very evident what they thought of one another, for when I stopped to talk to them they looked decidedly bored.

"I rather enjoyed the situation, but

felt sorry for them, for I knew Chief Phelps prided himself on never letting any one get away from him. He would certainly carry out his instructions.

"Finally I said to them in an off hand way:

"'You two are running away to get married, eh?'

"She flushed up in a minute and glaring at me, said:

"'Why, no; of course not! The idea!'

"He was more to the point.

"'I'd like to know what business that is of yours,' was his demand.

"'Oh, nothing,' I replied, carelessly. 'Maybe I am mistaken, but a message has been sent to the chief of police of Trumanville to arrest Agnes Downey—that's all.'

"'Oh, George, what shall we do?' she pleaded, but George didn't seem to know. He looked worried, so I let him figure on the proposition for a while and then told them I would do what I could for them. I wouldn't tell them what that was, but when we got to Rigdon I had a little pow-wow with Ed. Caldwell, the operator and agent.

"Then I called the frightened couple into the baggage-car and told them to finish the ride on the trunks and boxes and I might be able to sneak them through. They were as meek as martyrs and obeyed me implicitly. Caldwell, grinning from ear to ear, looked them over, made a record in his book, and handed me a couple of slips of paper.

"It was only a short run from Rigdon to Trumanville, so I let them fret till the town was in sight. Then I called the prospective groom's attention to a little scheme that I thought might pull them through. He almost wrung my hand off just to assure me of his appreciation, but I told him not to do that until he was safely past the guard at the depot and on the ferry to Holdenburg.

"Well, Chief Alex. Phelps was on hand all right, and so was a big crowd that had in some way got next to what was coming off. Some wag saw the shrinking couple in the baggage-car and gave the alarm. In ten seconds half the male population of the town was crowded around that car.

"Phelps plunged through the spectators and, peeping into the car, shouted:

"'Are you George Hopple?'

"'Yes,' was the unterrified response.

"'And is that young lady Miss Agnes Downey?'

"'Yes.'

"'Well, I'm sorry to do it, but I shall have to detain her and send her back home on the next train.'

"'Oh, I guess you won't,' George said calmly.

"Now the chief was not in the habit of taking any back talk, and this riled him somewhat.

"'I'll show you whether I will or not.'

"And with that he started to climb into the car.

"'And I'll show you,' George handed him back. 'Do you know anything about Interstate Commerce?'

"'What's that got to do with you and the young lady?'

"'Everything. We're it.'

"'You're what?'

"'Interstate Commerce. See these tags?'

"Till then no one had noticed that the youngsters had tags tied to their arms, and when George leaned over to give the chief a closer view of his, that official discovered that the article to which it was attached had been regularly and legally consigned, by express, prepaid, from the station-agent at Rigdon, Kentucky, to Squire Ball, at Holdenburg, Indiana. The young lady's tag read exactly the same way.

"The express wagon backed up to the car.

"'How about it, chief?' asked the driver.

"'Take 'em away,' replied the custodian of the peace, doffing his hat. 'I really didn't want to bother 'em any way.'

"The couple climbed into the wagon and most of the crowd followed them across the ferry. I went, too, and was the 'best man.' There were no bridesmaids.

"I had forgotten the date, but she didn't. They are going to celebrate tonight, and as Caldwell and I can't attend, Mrs. Hopple came out to see us. Hopple sent us a message. He said that if they went through that way again, they would have to have four tags."

'Neath the Shade of the Old Water-Tank.

BY W. H. WILCOX.

THE TRUE STORY SERIES. This is the story of an eagle-eye's troubles with a fireman on the "Hinkey Pike." It is a yarn with a moral—and the moral is as plain as the nose on your face, so we won't print it here. The author may seem to have gone beyond the border line of truth. Not so. His story is based on what really happened, and instead of making it a cold recital of facts, he has served it up as if it were fiction, which makes the facts more interesting, and their perusal more pleasurable.

Windy's Recurrent Attacks of Appendicitis in the Region of the Heart, Suddenly Vanish When the Eagle-Eye Decides that It Is Best to Send for an Ambulance.

TRUE STORY, NUMBER FORTY-TWO.

"HALLO, Punk!" said Hash-Bar Brown as Riley joined the group of spare men idling under the water-tank. "How did the 428 do last night?"

"Fine," said Riley; "she's a ball of fire. We came from Saunder's Siding to Topstone with a full train last night in twenty minutes, and the pointer never left the two-hundred mark."

"That's one of Punk's pipe-dreams," said Cyclone Smith. "Punk knows he couldn't keep a cook-stove hot, anyway, and he's tryin' to make us think he's a crackerjack.

"I can fire anything you can, anyway, Smith. I've heard when you was firin' they had to assign you to switcher service because you kept tying up the road with no fog. If you don't believe the 428 stayed hot last night, ask Con McCaffery. He was runnin' her."

"I wouldn't believe Con if his mother was dyin'," said the boomer. "He's worse than you are."

"Well, then, ask Windy Sanderson. He was braking the head-end, and rode from Saunder's on the engine."

"Windy don't know when an engine's hot, anyway," contemptuously commented the boomer.

"He don't, eh? Well, he ought to. He fired two years on the B. and M., and one

EDITOR'S NOTE: All the stories published in this True Story Series have been carefully verified by application to officers or employees of the roads or companies concerned who are in a position to be acquainted with the facts. Contributors should give us the names of responsible persons to whom we may apply for such verification, in order that fruitless inquiries may be avoided. This condition does not imply any lack of confidence in the veracity of our contributors, but is imposed merely to give greater weight and authenticity to the stories.

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on the C. V. At least, that's what he told me, though I ain't succeeded in gettin' him froze onto the wooden end of the scoop yet."

"Oh, he fired on the B. and M., all right, and also on the C. V. I had him the first trip he made on the C. V., and he put it over me like a tent. It was the most sensible thing Windy ever did when he deserted the scoop for the side-door Pullman. He does make a passable brakeman, but as a fireman he was a decided failure."

"How did he put it over you on the C. V., boomer?" asked Hash-Bar.

"Well, you see, I was runnin' spare out of St. Albans, and they called me one Tuesday morning to go to White River with a train of wheat. I had a date with a girl in the restaurant at White River, if I could get there; and, naturally, I was delighted when the White River extra showed up. Was afraid I'd have to go over to Rouse's Point on the way-freight, but the extra was ordered out first.

"I SPENT MOST OF THE TIME INSTRUCTING WINDY HOW TO FIRE THE HOG."

"When I got over to the engine-house, they told me I was to have the 751, a big cross-compound from the Grand Trunk, and a new man named Sanderson for a fireman.

"I got the 751 ready, screwed down the grease-cups where they were full, filled the empty ones, filled the lubricator, oiled round, pulled out to the water-plug, and still no fireman showed up.

"I was about to go into the office to tell Gilbride, the locomotive foreman, that I didn't have any fireman, when along comes Windy with a dinner-pail as big as a small trunk and a pair of eyes lookin' like the relics of a Swanton drunk.

"'Hallo, matey,' says he, 'what kind of a hog have we got here? Is she any good?'

"'Good engine,' said I, 'if you can fire her.'

"'Well,' says Windy, 'I'm a new man here, just finished my fire-trial trips, but I'll keep her hot as I can.'

"'That's all any one can do,' I said; 'but I hope you keep 200 on her, because I've an engagement down to White River Junction to-night that I don't want to miss; and I don't want to be any sixteen hours on the road, either.'

"Windy took water, and we started for Italy yard after the train. I noticed then he didn't act very green with the scoop; and I commenced to pat myself on the back, thinking I'd have plenty of steam, for the 751 really was a good steamer, and most any one could fire her. I did my patting a little too soon, as I found out before we'd gone very far.

"We had a meet on the 411 at Milton, four stations south of St. Albans, 751 to take the siding; and if it hadn't been down-hill goin' into Milton Siding, we'd never got there without first blowin' her up hot. I stopped at the switch with 110 pounds of steam and just a bare flutter of water on the bottom gage.

"I spent most of the time at Milton while we waited for the

"I SHED MY TAILOR-MADE RAIMENT AND SORROWFULLY GLUED MYSELF TO THE SCOOP."

four-eleven, instructing Windy how to fire the hog so as to get the best results. He took it all in, askin' a few foolish questions and looking about as intelligent as a fat pig.

"From Milton to Essex Junction she did a pretty good job. Never went below 180, and most of the time I managed to keep two solid gages of water in the boiler.

"I was patting myself on the back again and building more air-castles, thinking that at last he'd got the hang of her; but those air-castles tumbled about my ears before we'd passed Jonesville. The 751 emitted a half-strangled grunt and expired, dead as a monkey-wrench, about a train-length south of the North Duxbury station, right on the steepest part of the hill.

"I said to myself, 'Weary, if you want to keep that date in White River, it's plainly up to you to fire this hog up the hills,' so I shed my tailor-made raiment and sorrowfully glued myself to the scoop.

"From there to Roxbury, about forty miles, I shoveled coal, keepin' the pointer at the two-dollar mark. Windy took my seat and played engineer. I looked up at him a couple of times, and caught a queer sort of expression on his face, as though he wanted to laugh and didn't dare.

"It would have made me suspicious, but I was too anxious thinking whether or not we would get to White River in time for me to escort that waitress to the dance at West Lebanon.

"I hadn't fired an engine for a year or more, and had accumulated considerable fat gettin' ready for the cold weather they have up there; and the way I fried out was a fright. I shed water enough to half fill the tank. From Roxbury to White River Junction is forty-seven miles, practically

all down-hill, and I heaved a huge sigh of relief when we pitched over the summit.

"Say, the way I dropped that train down through East Granville and Braintree resembled a Kansas cyclone. Took a chance on the order-board being set at East Granville, and went down through there so fast the station looked like a blur. The 751 had considerable lost motion in her driving-boxes, and when we went past Braintree she was rolling so much that Windy was afraid to leave the seat.

"There he fairly hung with one arm round the corner of the cab, while the other had a strangle-hold on the head shack's neck.

"I pinched her down to about twenty miles an hour goin' into Randolph, expectin' to find orders there; and, sure enough, the board was out with a meet on two extras at Bethel.

"We got to Bethel, all right, and let one of the extras go by.

"But the other! The 402 had one of her usual balky spells, and was stalled somewhere between South Royalton and Bethel with a broken intercepting valve. We waited three hours and forty-five minutes for them to show up, which put all my hopes of meeting that waitress plumb into clear.

"Maybe I wasn't some mad. About all I did from there to White River was cuss the measly old railroad and chew my pipe-stem. By the time we got to West Hartford I had it chewed in two pieces.

"We finally got put up about 8.45, by which time the girl had been gone an hour. To make matters worse, she went under the escort of a Woodstock brakeman.

"Of course, there was nothing left for me to do then but eat and go to bed. I don't like to retire just after feeding, and Windy wasn't tired, so we stood on the veranda of the Junction House, talking to Batch, the fellow running the 417.

"Pretty soon along comes a B. and M. engineer and his fireman. I knew the eagle-eye, because he had shared my room at the Junction House the trip before. They both appeared to know Windy.

"He and the B. and M. smoke-agent sauntered into the drug-store for a couple of cigars, and while they were gone I asked the hoghead if he knew Windy very well.

"'Sure, I know him,' he said. 'He fired over on the B. and M. about four years.'

"'What?' says I, and you could have knocked me over with a feather.

"'Why, yes,' he says, 'he fired for me for nearly two years out of Springfield. Got canned for boozin'.'

"Well, maybe I wasn't some crazy to think of the way that crafty tallow-pot had put it over me. I didn't say a word, though. I just bided my time, and I says to myself, 'You'll earn your money goin' back, old-timer.'

"We left White River the next morning with thirty-seven empties, and the way I pounded that engine was wicked. Didn't hook her up over half-stroke from the time we left till we stopped at the water-plug at Bethel, and Windy was kept too busy shovelin' coal to think of gettin' tired.

"While he was taking water, I suppose, he had a chance to think that keepin' her hot didn't agree with the way he acted going down. Anyway, we hardly got the tail-end over the north switch before he was apparently worrying again, and the pointer kept falling back, even with the injector shut off.

"Pretty soon he says: 'Say, matey, she's beatin' me pretty bad now. I don't know whether we'll get to Braintree without stalling or not.'

"We had a meet at Braintree.

"'Well,' says I, 'we'll go as far as we can; and when that steam's all gone, we'll stop and make some more.'

"When we passed Randolph she was pretty low on fog, and was just about able to keep going.

"Windy looks up at me and says: 'Matey, if you don't take her soon, we'll die sure before we get to Braintree.'

"'I ain't paid to fire this engine,' I said.

"About two miles south of Braintree south switch, I heard something fall, and then an awful yell. I turned my head quickly, and there was Windy, rolling around on the deck, throwing his arms around and yelling like an Indian.

"'Oh, my side, my side!' he yelled, clutchin' at his overalls about where his heart is located, 'I think I got appendicitis!'

"His face was so black I couldn't see whether he was pale or not, but he acted

so like a balky compound that I began to feel alarmed. I hoisted him up on the seat, and fired the remaining two miles to Braintree, where we headed in to the side track. All the time Windy kept moaning and groaning like an engine with dry valves.

"There is one of those third-class saloons at Braintree where they sell bottled goods only, and I hustled over and bought half a pint of rum. Windy stowed that liquor away without a blink; and, when we pulled out after No. 9 had gone, he dropped down on deck and grabbed the shovel.

"I was goin' to fire her up to Roxbury; but he suddenly seemed so much alive that I concluded the liquor had cured him, so I stayed on the box.

"Gee! The way that engine steamed from Braintree to Montpelier Junction! I hardly closed her stop all the way! We had to head in at Montpelier Junction and do some way work, and we were there so long the effects of the liquor had pretty well disappeared. I could see when we started out again that Windy had another tired streak comin' on, but he didn't complain any about his appendicitis until I shut off for the old water-plug at Middlesex.

"I'd hardly closed the throttle before he fell down on deck again with another spasm.

"'What's the matter?' I said. 'Got another attack of appendicitis?'

"'Yes,' he said. 'I guess I'm goin' to die this time, sure. Maybe,' he groaned, 'another half pint of that booze would save my life.'

"OH! MY SIDE! I THINK I GOT APPENDICITIS!"

"I was good and suspicious by that time; and, though I had nearly a hundred dollars in my pocket, I said:

"'I'm sorry, Windy, but I blew my last thirty-five cents down at Braintree.'

"The head man hadn't witnessed the Braintree spasm, being back in the hack at the time. But he was a good-hearted lad, and he hiked off for another pint, there bein' one of those third-class dumps about a mile from the water-tank.

"I took water while he was gone, and when he returned we started out with the whole half pint distributed around Windy's interior.

"The run from there to Essex Junction was a repetition of the one from Braintree to Montpelier Junction. Couldn't knock the fog off that engine, no matter how hard she worked.

"Just before we arrived at Essex, Windy commenced to get nervous again, which I construed as a signal that he was looking for another 'wetting' down; and, sure enough, we hardly stopped for the head man to throw the switch when he had another spell.

"I didn't pay any attention to him until we had cut the crossings and stopped back of the train-shed.

"'Say, feller,' says I, 'they have a hospital in this burg; I'm goin' over to the office to phone for the ambulance for you.'

"'What?' says Windy, as he stopped burrowing in the coal. He looked alarmed, and his lower jaw dropped till it looked as if it was hung to his ears by a string.

"'I said I'm goin' to telephone for an ambulance for you,' I repeated.

"'I don't think I need any doctors now,' said Windy. 'I feel pretty good. The pain has suddenly stopped, and I guess I can get to St. Albans all right.'

"'Man,' said I, 'you're pretty sick. You're liable to die before we get to Colchester, and what would I do with a dead fireman on my hands?'

"'I ain't goin' to die, matey,' says he, 'and I'll keep her red-hot all the way in.'

"'Well,' says I, 'if—'

"'Hey, boomer,' interrupted the call-boy, shoving his head out the office window, 'we want you for the wrecker. The 582 has a car crossways at Yalesville, plugging both irons. Hurry up!'

"'All right!' shouted the boomer, starting for his locker on the run.

"'Hey, boomer!' yelled Hash-Bar, 'how'd you make St. Albans?'

"'She was the bull o' the woods,' came floating back over his shoulder as he disappeared within the engine-house."

TRAINING MOTORMEN.

THE selection and training of motormen to operate a fast and frequent service, such as that given by the Hudson and Manhattan Railroad in the North River tubes, requires special precautions. An interesting feature of the employment methods of this company, says the *Electric Railway Journal*, is the establishment of an intermediate grade in which all candidates for the position of motorman must serve for a considerable period of time before being placed in charge of regular trains.

This grade, which is that of switchman, corresponds in some respects to that of fireman on the steam roads. It provides a means of training the men in every phase of their future duties much more thoroughly than would be possible by a short course of instruction in the shops or schoolroom, and no danger to passengers is incurred through trusting an inexperienced man with the operation of a regular train even under the guidance of an instructor.

While serving as a switchman the new man has an opportunity of learning first hand the operation and construction of the equipment, how to locate and find trouble, the meaning of signal indications, and the actual "feeling" of a car or train in motion. In the meanwhile he is earning a living-wage and doing necessary work incident to the operation of the regular trains.

Only the best men are willing to undertake a switchman's work as a step toward promotion to the coveted position of motorman.

Another meritorious feature of the plan is that the list of extra motormen is kept down to a minimum, since there are always available switchmen who are qualified to operate trains when required in emergencies.

A significant feature of this company's employment practise is the fact that it prefers to engage as motormen men who have held similar positions on high-speed electric railways or who have been employed on steam railroads.

The Birth of a Flier.

BY OLIN CRAWFORD.

A GREAT flier is a demand satisfied. Every important flier is put on the road for the purpose of meeting the wishes of the public. Most fliers are run at a loss for a considerable period after they are inaugurated. Some never pay at all. A flier represents the work of many men in many different parts of the country. It is one of the finest examples of coordination known to modern business. This article will tell you how it is brought about.

What Has To Be Done When a Train Is Hurriedly Put on the Rails To Break Records in a Run Half-Way Across the Continent.

"TWENTY-FOUR hours between New York and St. Louis!" That was a slogan of St. Louis business men for years. They kept dinning it into the ears of the officers of the railroads. For years the men who rule the highways of commerce between those points shook their heads.

"The amount of passenger traffic between the two cities doesn't justify such an expensive undertaking," they declared.

Said the men of the New York Central:

"From New York to St. Louis by our lines is eleven hundred and seventy-one miles. A twenty-four-hour train would have to be run at an average speed of forty-eight miles an hour, including all stops. Two hundred and eighty-four miles of the route are by single track, and every division for the entire distance is already crowded with traffic."

Other roads found the problem equally difficult. By the Pennsylvania the distance was one hundred and sixteen miles shorter than by way of Albany and Cleveland, but the company had its heavy grades to consider. It is still an unsettled question whether those grades do not impose a handicap equal to that of the roundabout course followed by the Central's water-level lines.

The Cry from St. Louis.

Still, St. Louis kept up its cry, and at last the railroad men began to study the matter. Certainly such a train would not pay at the beginning—not directly, at least. They were sure of that.

There were, however, other possible profits to think about. The train would be a big advertisement; and, more than that, it would stimulate the movements of freight between the two cities.

One day last October the New York Central, after long consideration of the expense of running a regular train at such

a speed for such a distance, decided to put the twenty-four-hour flier into service. A meeting was called. The president of the company, the vice-presidents, and the general managers of the Central, the Lake Shore, and the Big Four were there.

Settling the Details.

One of the first and most important questions before them was that of the starting and arriving times at the two terminals. What hours would interfere the least with the rest of the traffic on the lines, what hours would be most satisfactory to the business men, and what hours would meet the most important railroad connections at the St. Louis terminal?

There were sure to be many differences of opinion over each of these questions, and it took no end of discussion to decide them. And when at last starting and arriving times of the east-bound train and the west-bound were fixed, came the difficult matter of fixing the time by divisions.

The time between the two cities must be cut four hours and fifteen minutes, and much of that cut, if the Big Four was to do its share of the fast running, must be borne by that road.

Already the fastest St. Louis train ran close to the limit of speed for long distance over the Central and the Lake Shore sections of the route. Some reduction could be made in the time between New York and Cleveland, but the Big Four, in spite of its long stretch of single track, must force the flier far faster than any regular train had ever run over its line.

Big Four's Share.

"We can run the train between New York and Cleveland at the speed of our Twentieth Century," said C. F. Daly, the vice-president in charge of the traffic department. "The Big Four will have to do the rest."

The general manager of the Big Four found that he would have to attend to an hour and thirty-five minutes of the cut on his line, extending from Cleveland to St. Louis. It was a good deal of a proposition, with a single-track road all the way from Cleveland to Indianapolis crowded with passenger locals and freights, and a still heavier traffic on the double track between Indianapolis and St. Louis.

The general managers returned to their offices, and each called in his division superintendents to pro-rate the time on each division.

On the Hudson division, between New York and Albany, which is not one of the hardest divisions of the system for speed on account of its many curves, the time was cut twenty-one minutes for the west-bound train. From Albany to Syracuse a cut of thirty-three minutes was made, and fifteen minutes from Syracuse to Rochester.

From Rochester to Cleveland, without a single scheduled stop, the time was cut an hour and thirty-one minutes, and the Big Four was left with the problem of making up the remainder. It was a problem worth tackling.

Switching the Schedule.

When the running time was at last fixed in all its details, the schedules of more than forty trains had been changed to make room for the flier.

The news of the inauguration of a record-breaker is sure to cause a stir from end to end of a railroad. Long before the new train was put into service it was the main topic for gossip from the president's office to the roundhouses. For days among the high officials there was speculation as to what its effect would be upon the business of the company, of what it would cost, and of how the time schedule would suit its patrons.

Among the engineers especially it was a live subject, for it would mean promotion for some of them.

Making History.

When November 7 came, which marked the installation of the flier, the heads of the traffic department in New York were all on hand to see it off on its Sunday run. An electric engine drew the train out through the yards and the tunnel to High Bridge, where a quick change was made to one of the highest type of high-speed steam-locomotives—weighing, with its tender, 428,700 pounds.

Then up the Hudson to Albany flew the train that was making railroad history, the fastest flier for the distance the world had ever known. Fifty miles an hour on an average for the entire division it tore along, and sixty miles and more on straight runs.

Less than three minutes to change engines at Albany, then on to Syracuse at increasing speed. Again the same quick change of engines, and again at Rochester.

At Buffalo there is no stop for passengers, but it runs around the city to Buffalo Compromise for another three-minute change of engines, then flies along the straight Lake Shore track to Cleveland at a speed sometimes reaching seventy miles an hour. Another engine at Cleveland, and then the most doubtful part of the journey begins.

The Half-Way Line.

Almost twelve hours of the twenty-four have passed, and the train has been on time to the minute at every point, but the two hundred and eighty-four miles of single track between Cleveland and Indianapolis lie ahead of it. The general manager of the Big Four has arranged a schedule calling for an average speed, including stops, of forty-seven miles an hour for the entire stretch of that slender highway.

Allowing for stops and reduced time running through towns and around curves, an average speed of forty-seven miles means that sixty-five and even seventy miles an hour must be reached on straight stretches in the open country. That is going some on a single track already heavily loaded with freight and passenger trains.

But in the dark morning hours the record-breaker tore on through towns and villages and farms, and past long lines of side-tracked traffic, without a hitch and still on time to the minute. Long before daylight though it was, sometimes the glimmering lights of a station would show a little crowd of people gathered to see the train flash by.

There must have been faces peering from the windows of many a farmhouse in Ohio and Indiana that night to see the Southwestern Limited make a world's record. For it is out in the country districts that that sort of thing is appreciated.

When the train left the Grand Central Station in New York, nobody seemed to take the slightest interest, outside of the railroad officials. There was no crowd at the gate to see it start.

Where They Notice.

In fact, almost the only person there was an employee of a rival road, who had been sent to count the passengers. But out in Indiana, as daylight came, the crowds grew greater.

It was a gala day in some of the little towns, where the flier roared by groups of cheering people. At Indianapolis five hundred people had gathered on the station-platform.

The long stretch of single track had been passed without a mishap, and the flier was still on time. It was not until the last lap of the long run had been reached that trouble came. At Mattoon, where a stop was made for a change of engines, it was twenty minutes behind time.

But there were still one hundred and twenty-four miles ahead, and it pulled into St. Louis at 1.45 P.M., the exact time the schedule called for. From Cleveland, five hundred and thirty-seven miles away, only three stops had been made—three minutes at each place, to change engines.

Beating the Schedule.

That morning the east-bound twenty-four-hour train had pulled into New York ten minutes ahead of its schedule.

It had taken more than a month for the railroad officials to study out the problems in the way of putting that train into service. During about the same length of time the officials of the Pennsylvania, which put a twenty-four-hour St. Louis train into service on the same day over its shorter line, had been studying problems almost as difficult. When a road decides to put a record-breaker into service, it doesn't take a rival road long to get the news.

It is sure to come to it through one mysterious channel or another in plenty of time for it to follow suit if it wants to. It was the same with the eighteen-hour

New York-Chicago trains. The Central and the Pennsylvania started the service on the same day, yet there is no agreemnt between the roads for the interchange of news of such plans.

Rivals on the Job.

Seven years ago, when the New York Central put on its Twentieth Century train between New York and Chicago, which for the first year made the nine hundred and eighty miles in twenty hours, establishing a world's record for the distance, there was some doubt as to whether such fast time would be possible. To convince themselves, the officials ran a test train over the road, consisting of two ordinary passenger-cars to give weight and two private cars. The test train made the run in sixteen hours, and the doubters were satisfied.

Then forty-eight trains were forced onto new time schedules to make way for the new flier, and the record-breaking service was inaugurated. The first Twentieth Century to Chicago got into Elkhart and Toledo from twenty to thirty minutes ahead of time, and the officials on board were taken through the streets of those two cities in automobiles which ran through lanes of cheering people.

A year later, when the time was cut to eighteen hours, the skeptics rose up in alarm.

"A menace to life!" was the cry. "Running a train at such speed is the next thing to murder!"

Not Near the Limit.

But as a matter of fact, eighteen hours is far from the limit of speed at which a regular train might be run over the road. The New York Central's officials believe it possible to run a train from New York to Chicago in safety in fourteen hours.

That would be at an average speed of seventy miles an hour, including stops. Such an average speed would mean an even greater speed for a good part of the way, but the company has no doubt that it could run a train safely for many miles at a stretch at eighty miles an hour.

A fourteen-hour New York-Chicago train, however, would be run at a ruinous loss. Even the Twentieth Century has eaten up hundreds of thousands of dollars more than it has brought into the company's coffers.

For the first two or three years it meant a loss of probably at least one thousand dollars a day. Nobody knows exactly what the figures were.

With two Twentieth Centuries a day, an east-bound and a west-bound, that would have meant a loss of close to three-quarters of a million a year. So is it any wonder that the officials ponder a long time before they yield to the demands for a new long-distance record-breaker?

Losses and Rewards.

But there is some consolation for the losses incurred through such a train. It was found in the case of the Twentieth Century that there was a steady gain in the number of passengers, and that the losses were pretty sure to be wiped out eventually.

While at first the Century carried only from twenty to thirty passengers a day, it now carries three times as many.

Then, too, it was observed that the new train immediately stimulated the movements of freights between the two cities. It was the natural result of putting the business elements of the cities within easier reach of each other.

Just what it costs to run such a record-breaker the railroads would give a good deal to find out. Dozens of expert accountants—the best that could be found—have struggled with the problem in vain.

Of course, it is a simple matter to reckon the wages of the employees on board and the cost of fuel, but they amount to a very small part of the expenses to be charged against the train. There is the wear and tear upon rails, road-bed, and rolling-stock — an expense that grows greater and greater with increasing speed.

Getting at the Cost.

Then there is the very important expense incurred through losses to other trains that have been affected by the flier. And, besides, the train must bear its share of the expenses of maintaining the road.

So difficult is it to reach any idea of

what these expenses are that the company is not sure whether the Twentieth Century has come to be a paying investment or not.

The receipts from each of the two daily trains, the east-bound and the west-bound, are considerably more than two thousand dollars a day, or more than a million and a half a year from both. So, with the company in doubt as to whether there is any profit left, probably the expense of running the train comes not a great way from that figure.

Even the cost of the cars and equipment of a record-breaking train amounts to a large sum. The great locomotive that draws it costs twenty-two thousand dollars, and it takes nine such engines to draw the twenty-four-hour St. Louis train.

For such a train the sleeping-cars must be of the best. Twenty thousand dollars is often spent on a single one. The company does not stint itself in fitting out the pride of the road.

And All the Luxuries.

There must be all the luxuries. There must be a barber, a ladies' maid, a manicurist, and a stenographer, in addition to the usual force of enginemen, baggageman, stewards, cooks, waiters, trainmen, conductors, and porters. A passenger never travels so well as on a record-breaker.

On one such train even the unpleasantness of getting in late has its consolations. If more than fifty minutes behind time, the disgruntled passenger is cheered by receiving his fare back at the rate of a dollar for every hour lost. There are many more disagreeable ways of passing time than riding on a record-breaker—even if it does cost something.

SOME FAMOUS "TRAVELING PUZZLES."

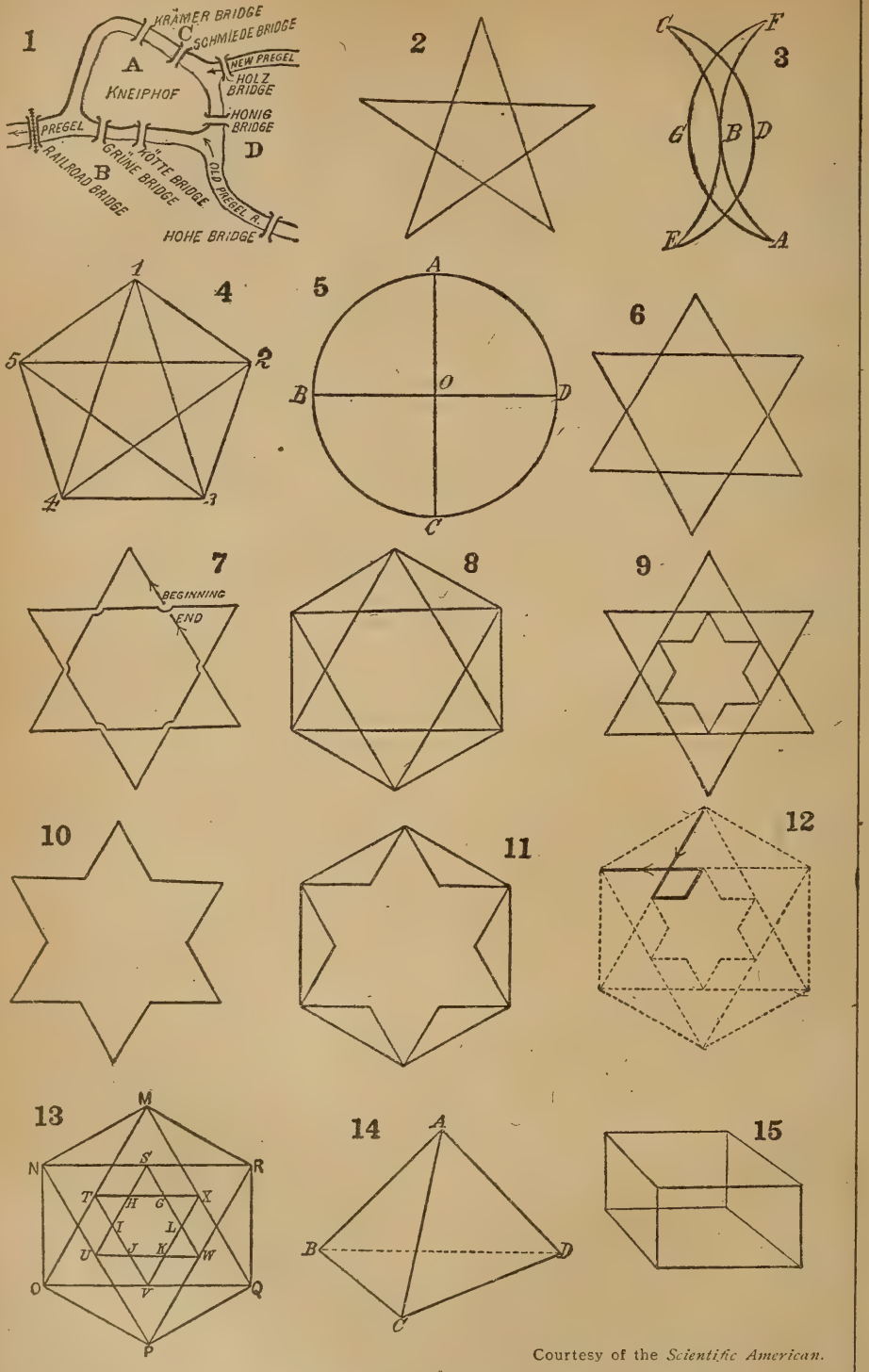
The Seven Bridges of Königsberg and Other Mathematical Puzzles and Chess Problems Which Have Attracted the Keenest Minds for Many Ages.

THE ancient and university town of Königsberg is situated on the river Pregel, which here forms an island called Kneiphof. There are seven bridges over the river, five of which connect with the island, says J. F. Springer, in a recent number of the *Scientific American*. In the earlier part of the nineteenth century a discussion arose as to whether it were possible for a person to pass over all the bridges in one continuous trip and without covering the same path twice. In fact, this problem attracted the attention of the celebrated mathematician Euler.

In order to understand the question clearly, refer to the map. The start may be made from any point. The problem is really insoluble, try however you will. If it be considered allowable to cross the Pregel (page 268) by the railroad bridge below the town, the problem may readily be solved. Thus, beginning at a point on *D* one passes over the Holz Bridge, then over the Schmiede Bridge to the island, then back to *C* by the Krämer Bridge. One now makes a detour, passing over the Pregel from *C* to *B* by the railroad bridge, then passes to the island by the Grüne Bridge, returns over the Kötte Bridge, and goes over the Hohe Bridge from *B* to *D*, and finally completes the journey by crossing the Honig Bridge onto the island. Thus, seven—in fact, eight—bridges have now been crossed and no part of the path has been covered twice.

This type of problem may fittingly be termed a *traveling puzzle*. It is in reality a very ancient kind of thing. Thus, there has come down to us from the time of Pythagoras, who flourished in the sixth century before the present era, a very simple example in the shape of the Pythagorean star, an illustration of which is annexed, Fig. 2. This figure may readily be traced by one continuous line and without duplication of the path.

A story is told to the general effect that a disciple of Pythagoras once fell sick at an inn, where he was cared for very kindly by the innkeeper. Instead of getting better, however, he grew worse. At last, with the expectation of dying and being unable to repay his kind host, the Pythagorean asked



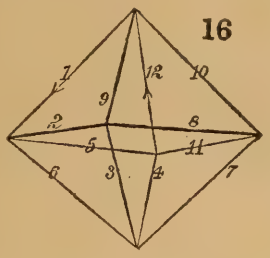
Courtesy of the *Scientific American*.

THE SEVEN BRIDGES OF KÖNIGSBERG AND OTHER MATHEMATICAL PUZZLES. NOS. 1 TO 19.

for a board. When this was brought, he traced out the single-line star. Giving this to the innkeeper, he desired him to display it outside. Some time after his burial, a stranger happened along. Upon observing the star, he made inquiry, and was informed of the particulars related. He then, in order no doubt to make the story complete, handsomely rewarded the innkeeper for the unselfish care that he had bestowed on the unfortunate Pythagorean.

Another figure of the single-line type is that known as Mohammed's signature. This is shown in the annexed drawing, Fig. 3. It is understood to have been drawn by Mohammed upon the sand by a continuous and unrepeated movement of the point of his simitar. Beginning at *A* and following the course indicated by the letters *ABCDEB FGA*, one may see how it was possible to accomplish this result.

16



An extension of the Pythagorean star is shown in Fig. 4. This may be solved by following the routes indicated by 1 2 3 4 5 1 4 2 5 3 1, 1 2 3 4 5 1 3 5 2 4 1, and 1 4 3 1 5 4 2 5 3 2 1. In these it will be noticed that two or more exterior sides are taken consecutively. If it be required that this shall not be the case, the problem is perhaps somewhat more difficult. Nevertheless, it is soluble, as may be seen by following out the order indicated by 14315325421.

We must not be deceived by the apparent simplicity of a given case of this type of puzzle. Thus Fig. 5 discloses the very simple figure made by a circumference and two diameters. Try as you will, you cannot cover this figure by a continuous line that nowhere duplicates itself. On the other hand, figures that are apparently very complicated frequently admit of a ready solution.

Thus, the six-pointed star shown in Fig. 6 may be quickly solved by the method shown in Fig. 7. To work the puzzle given by Fig. 8—that is, the star of Fig. 6 with the including polygon—observe Fig. 7. This does not in its present form, perhaps, suggest a solution, for the reason that beginning and ending at the point indicated, we have no opportunity to draw the inclosing hexagon, either as a preliminary to starting or as a sequel to finishing. But at the moment when we have arrived at the tip of *any* of the six points of the star we may draw this hexagon, and then continue according to Fig. 7.

Refer now to Fig. 9. This is apparently a very complicated design. There is a very simple solution, however, which Figs. 10, 11, and 12 will assist in developing. It is easy to see how to draw Fig. 10, no matter where we elect to start. If we start at the tip of a point, the including polygon of Fig. 9 may easily be drawn as a preliminary or a sequel (Fig. 11). There is just one thing to see, and that is how the remainder of Fig. 9 may easily be made by forming a kind of loop at each of the inner points, *A, B, C, D, E, F* (Fig. 11). The method of making this loop is indicated in Fig. 12.

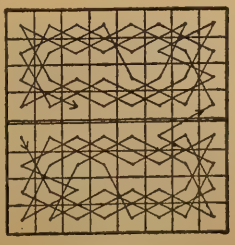
To draw Fig. 13, we proceed as per Fig. 9, except that the moment of arrival at *any* one of the points, *G, H, I, J, K, L*, is selected as the time to draw the innermost hexagon. A complete solution is afforded by the course indicated by *M T H S N U I T O V J U P W K V Q X L W R S G* **H I J K L G** *X M* **N O P Q R M.** The heavy letters indicate where the innermost and outermost hexagons are added.

Comparing Figs. 5 and 13, it may seem hard to realize that one puzzle may be worked and the other not. Perhaps some readers may be inclined to think Fig. 5 soluble. An actual solution will of course prove that they are right. In the meantime, the following considerations may prove of interest: There are in all five junction points—

17

37	62	43	56	35	60	41	50
44	55	36	61	42	49	34	59
63	38	53	46	57	40	51	48
54	45	64	39	52	47	58	33
1	26	15	20	7	32	13	22
16	19	8	25	14	21	6	31
27	2	17	10	29	4	23	12
18	9	28	3	24	11	30	5

18



19

50	11	24	63	14	37	26	35
23	62	51	12	25	34	15	38
10	49	64	21	40	13	36	27
61	22	9	52	33	28	39	16
48	7	60	1	20	41	54	29
59	4	45	8	53	32	17	42
6	47	2	57	44	19	30	55
3	58	5	46	31	56	43	18

O, A, B, C, D. If we do not start or end at such a point, we must recede from it for every approach; and conversely, for every recession there must have been a previous approach. Approaches and departures are thus paired off.

At a starting point, however, it is possible to have a departure without a previous approach; this would occur when we begin, and only then. Likewise at a finishing point, we may have an approach without a following departure; this would occur at the end, and only then. That is to say, there cannot be more than two points (the start and finish) where an odd number of lines join. In Fig. 5 there are *four* such points—*A, B, C, D.* This shows sufficient reason for pronouncing this figure insoluble.

Let us turn now to solid bodies, and look at some of the simpler cases. Take the tetrahedron shown in Fig. 14. It is certainly a matter of indifference at which vertex we begin, so we start at *A*. We have the choice of three beginnings. It is also evidently a matter of indifference which of those we follow, so we pass to *B*. Here again the two possible choices are alike, so we go to *C*. Here the two routes lead to different results—*C A* completing a triangle (*A B C*) and *C D*—closing no figure. First we try *CA*. Arrived at *A*, we are compelled to go to *D*. We have now two lines to draw—*D B* and *D C*. We may cover one, but not both. So then we return to *C* and try *C D*. Arrived at *D*, we see that if we go to *B* we shall be unable to go any farther. So then we go to *A*, and thus are forced to *C*. Here we stop, with *D B* undrawn. Referring, however, to the discussion of Fig. 5, we observe that the tetrahedron comes under the head of the impossible figures, as there are four points where an odd number of lines join, viz., *A, B, C, D.*

Fig. 15 is likewise an insoluble case, having eight points where three lines join. Fig. 16 is an apparent advance in complication. But we observe that all six vertices are junction points for an even number of lines. It is, in fact, a soluble case, as may be seen by following the course indicated by the numerals.

Another variety of this same general class of puzzle is the problem which requires the knight to start from a position on the chessboard and cover the whole board by a continuous series of moves, no position to be taken more than once. A convenient way of trying this puzzle is to rule with a sharp instrument on a slate the sixty-four squares of the chessboard. Wherever you elect to start the knight, you mark 1. His next position you mark 2, and so on. The slate enables false starts and errors to be readily corrected. This kind of puzzle has attracted a good deal of attention, and has received a multitude of solutions. Thus we may instance the solution given in Fig. 17. Here the lower half of the board is covered before any beginning is made with the upper half. The two halves are precisely symmetrical with each other, as may be seen by referring to Fig. 18, where the path of the knight is indicated by a continuous line. This division of the solution into two duplicates is not necessary, but is an added refinement. In one sense it simplifies matters, as we have but half the board actually to solve.

We are restricted, however, as to the point of termination. Thus in the present example, the point of beginning, 1, having been determined, the point 33—the beginning of the second half—is thereby fixed, so 32 must come where it is at present or must be at position 6. Fig. 19 is an illustration of a solution where the resulting arrangement of figures has some of the properties of a magic square. Thus every column and every horizontal line sums up 260. If the diagonals each totaled the same number, 260, then the whole would form a perfect magic square.

FLANNIGAN'S ASSISTANCE.

IN nearly every yard, of any considerable size, on Western lines you will find a son of Erin, slow of gait and bent with age, one of the fast disappearing reminders of the stalwarts "who built the road," whose duty is to keep the platform and yard cleaned up.

The other day as one of these old fellows—whom we will call Flannigan—was approaching a group of telegraph department men on a passenger platform, one of the youngsters—he only entered the service in '81—bet that Flannigan would not lend a hand to assist in anything with which the road master was not connected. The bet was taken by another of the party, who stopped Flannigan and said:

"Mister Flannigan, we have three or four barrels of vitriol and several boxes of telegraph supplies over at the freight house, which we want brought over here, and we are figuring on taking one of the baggage trucks and hitching up a few men to it to haul our stuff over. We have a pretty good team in sight, Murphy here and O'Brien and Sullivan, but we should have one more. Will you help us?"

"Shure Oi will," says Flannigan, "Oi'll drive."—*Rock Island Employes' Magazine.*

BREAKING THE COMBINE.

BY WILLIAM S. WRIGHT.

When Men Are Bound Together for No Good Purpose, It Is Well To Interfere.

CHAPTER I.

In Union There's Strength.

FROM the clock with the hard and judicial face, perched high above the judicial bench, came a sudden, single *clack!* like a rap of the judicial gavel.

"Half after twelve, 'tis," said Officer Ahearne, of the Seventeenth Police Court Squad, glancing upward, "an' his honor adjourned fifteen minutes or more. A slack mornin' for the old Sivinteenth, Mr. Leigh."

Leigh, the sole remaining representative of the press in the court-room, nodded absently. He was making a rapid revision of his last batch of "copy," and a messenger boy from the *Evening Record* fidgeted at his elbow.

Ahearne unbuttoned his blouse and leaned luxuriantly against the railing that divided the law from the laity.

"Three plain drunks," he went on, checking off on his fingers the cases that had just been decided. "Wan a disorderly, wan in the thurrd degree, wan attempted intry, wan from th' person, two pettys, two on suspicion; an' if me pair of buckos ain't of the warst, Nature fooled thim whin she giv' thim th' faces she did; foive evictions, an' a neighborly dispute, wid flat-irons, between a brace uv laadies over their kids. A scant marning, indeed."

The other again nodded, sealed and handed the big "copy" envelope to the boy, stretched himself mentally and physically, and gathered up pencils and notes, saying:

"You ought, anyhow, to be glad that the Seventeenth's improving, Pat?"

The man in brass and blue eyed the reporter in a meditative fashion.

"I s'pose so," he admitted; "but if there was less morals in the old days, there was more money—fees for th' clerks an' space fer ye boys an' th' small sarvices rindered by obligin' coort officers was cheerfully paid for. Lawbreaking, Mr. Leigh, is a nefarious nicessity whin ye come to look at it through our eyes, ye'll admit."

"There's something in that, Pat," said the other encouragingly, as he jotted on a scrap of paper, "The Reform of the Seventeenth—Sunday supplement." For the news-nose of the trained reporter scents a "story" afar off or much hidden.

"Yis, sir," went on Ahearne, "I remimber th' toime—'twas before you came among us—whin the line of overnight arrists would be strr-rung out before his honor, all along th' wall to th' rear av the room an' half-way up t'other side.

"It used to take foive or six of us to kape th' pris'ners from minglin' promiscuous like wid th' audience. Wan marnin' whin Judge Bradly—they used to call him 'Bull Bradly' in those days, because of that hair-raisin' voice of his"—Leigh made an instant note of the fact—"a woman had hi-steericks. In th' thriflin' racket that followed a half-dozen of the giants av th' line broke guard an' disappeared among th' spectators, who, by the token, in thim days consisted mostly av shyster lawyers, professional bondsmen, an' cheap crooks.

"'Oi'm lookin' ye over,' roared his honor at the audience, whin he wus towld av th' situation, an' th' ceilin' cracked wid

the bang av th' voice of him. 'Oi'm lookin' ye over, an' I see twinty av yez that's out av jail be th' grace av good luck an' bad law. Onless,' shouts he—an' two windy-panes shattered thimsilves—'onless thim pris'ners is back in th' line on th' instant, Oi'll have twelve of yez arristed on th' spot for—yez know what! Officer, let no person leave th' coort-room; clerk, make out wan dozen warrants, leavin' names blank.'"

"Good for 'Bull,'" commented Leigh. "And what was the result?"

"Th' six escaped prisoners was th' result," grinned Ahearne, "an—"

The insistent and muffled ring of the telephone-bell came from the clerk's office to the right of the court-room, and Ahearne hastened to reply.

"Th' call's fer you, Mr. Leigh," said he, as he reappeared; "an' th' gint on the other ind is a thrifle aisy on th' talk.

"'Who are yez?' sez I.

"'None av yer bizness,' sez he. 'Tell Mr. Leigh I want to talk to him.'

"'Yer name, sir?' sez I.

"'Hold yer tongue an' I'll hold the woire,' sez he, making a remark not for publication."

Leigh smiled and produced a cigar, which Ahearne eyed critically, but accepted gratefully. The reporter took up the telephone receiver.

"That you, Billy?" came from the other end.

"Yes. Who's this?"

"Staynes, of the *Sentinel*."

"Hallo, Sam! How is it?"

"Good! Can you drop in to see me this evening after I've given out assignments?"

"Certainly. Anything up?"

"Tell you when we meet. S'long."

Brevity is the soul of conversation in the newspaper world during working hours. Leigh replaced the receiver, returned to the court-room, and sent Ahearne into the judicial sanctum to ask his honor if there was any late news worth the writing. His honor, who, in company with a cigar and a friend, was giving an hour's grace to dilatory applicants for advice or warrants, sent out word that there was nothing doing.

The scene of these happenings is the big, sprawling, and queerly circumstanced —geographically speaking—city of Martport, whose southern foot is bathed by the waters of the Atlantic, the brineness of which is scarcely tempered by the flood of the adjoining great river. Martport, as it is now, is a city of absorptions. Time was when its boundaries were the long, narrow, queerly shaped peninsula, in which the business portion of the community is at present located.

But by reason of its situation it gradually sucked in the commerce of the coast round about. Hence, smaller and neighboring communities found it to their advantage to permit themselves to be merged into the larger center. They lost their individuality by the process, but gained in wealth and prestige.

So the Martport of to-day consists of five sections—that is: Martport proper, and North End, which was, ere the era of expansion began; the consolidated communities, Eastbay, The Marches, Highburg, and The Beaches.

Each of these latter boroughs retains its name for social and business purposes. But, politically and in other ways, they are just Martport—nothing more nor less.

The newspapers of Martport have for a good many years taken no cognizance of the fact that some sections of the city now are growing, so far as the alinement of their reportorial forces is concerned.

News-gathering is no haphazard occupation, as a good many people seem to imagine. Without going at length into the disposition of the working forces of a newspaper office, it is sufficient to say that the staff reporters are divided into two classes, viz.: "Department" or "district," and again, "office" or "emergency" men.

So far as the members of the first-named class are concerned, they are stationed at points or places where news normally drifts or centers, such as police headquarters, courts of law, precinct station-houses, river or harbor fronts, city halls, etc. Society, yacht, racing, sporting, and other "editors" are also and in reality department reporters. The emergency men hunt up information relative to any news item or "tip" that comes into the office outside of the "department" channels. In cases, too, where the department men find that they are facing a story that they cannot handle by them-

selves, such as a big fire, a sensational murder, or what not, emergency reporters are sent out to assist them.

In some instances, where the territory "covered"—to use the technical term—by the reporters is thinly populated, one man is given full charge therein, and is supposed to look after, not only the "departments," but such general news as may accrue outside of these. In almost every case, where the hunt for news obtains in either department or territories, the reporters representing the several newspapers find it to their advantage to form a "combination."

The work is apportioned out among the men, and then the resultant news is pooled and distributed. Each man getting the benefit of the labors of his colleagues, and he himself adding his quota to the general fund.

The combination system works all right if those taking part in it are honest. But the contrary is the case if the parties to the "merger" are tempted to loaf. It is an easy matter, under such circumstances, to do a certain amount of work—just enough to save the faces of the members of the combination—and stifle a whole lot of good news that normally should appear in print.

In other words, the combination, like the typical trust, can limit the output of news to the detriment of the journalistic industry and the public as a whole.

The borough of Highburg was originally a mere hamlet. By degrees it resolved itself into the manufacturing section of the big city—a conglomeration of huge factories and machine-shops, striped and dotted with streets or clusters of tall, grimy tenements. The population consists of immigrants who, valuable on the score of their brawn and numbers, are nevertheless undesirable in a good many other respects.

Nevertheless, Highburg was reckoned by the newspapers as a mere district. One reporter was deemed sufficient to "cover" it.

Appeals to the city editors for more help had in the past been fruitless, and the outcome thereof was that Highburg reporters had in self-defense formed a combination of a rock-ribbed sort, in order that the territory might be compelled to yield a measurable supply of news.

With the passing of time, however, the combination began to develop evils. Three-fourths of the happenings of the borough that should have been put on record never saw light, being stifled at birth.

The members of the combine were nearly all old hands. They were hand and glove with the local police captains, hobnobbed with magistrates and warrant-clerks, and stood in with court officers, telephone operators, and district politicians.

The correct attitude of the newspaper man in regard to public officials is ever that of one of the parties to an armed truce. Too much friendship between the press and the other side of the house is apt to lead to complications.

Because of the chummy footing on which the reporters stood in regard to Highburg people in authority, many queer things went on within that borough's limits that should have been brought to light. Those who were responsible for them had no fear of newspapers; and many of the immune had proved their gratitude by assisting in the process of freezing out a new reporter, who, of his own volition, or acting under instructions from his paper, tried to work independently of the combine.

In self-defense the city editor of the new man would recall the latter and appoint a member of the combination in his place. Immediately thereafter the output of news from Highburg would become scant as to quantity, and flat and alike in quality.

CHAPTER II.

Leigh Sees Staynes.

LEIGH called on Staynes that evening at about seven. He found him sitting at his desk in the *Sentinel* building. The editor was void of collar, necktie, coat, and vest. He was puffing at a reekful brier pipe and glancing over a late batch of the thin, yellow tissue paper on which come Associated Press despatches.

Near him were other coatless men, hard at work writing matter for the morning paper. A dozen or two reporters were lounging at their desks, awaiting the unexpected. There was an almost incessant

jingling of the telephone-bells, and a faint rumble from the presses in the basement.

The two men greeted each other briefly.

"Billy," said Staynes, "you are still a fixture on the *Record,* I suppose?"

"I guess so," said Leigh. "Unless the old man makes a deal with the *Enterprise.* You know, they've been trying to rake him in on a consolidation basis."

The "old man" was the proprietor of the *Record,* William J. Bevins, once mayor of Martport, whose newspaper responsibilities were tempered with dabblings in real estate and after-dinner speeches.

"No chance of that," said Staynes. "Bevins always did know a good thing when he had it, and knows enough to stick to it. That's why he made an iron-bound contract with you, Billy."

"The cigars are on me, Sam," was the laughing reply. "But did you bring me down here to chuck bouquets at me?"

"As a preliminary," said Staynes, "I'm going to spring the old one on you: Will you come with the *Sentinel?*"

"Can't, and won't," answered Leigh. "And you know it."

"As I expected. Then, will you do some work for us?"

"That depends," said Leigh. "If it doesn't interfere with the *Record* in any way I'm open to persuasion."

"Well," said the city editor slowly, "I want you to buck that Highburg combination, and buck it good. Ridgely, our chief, is mad over the way that Ross was compelled to quit Highburg, and has sworn that he'll bust the combine, no matter what it costs him in time or money."

Leigh whistled. "Ridgely has taken a pretty big contract on his hands, and you want to put it up to me? But who is Ross?"

"New man. Came on from Boston. His people, sort of sixth cousins of the chief. Is a graduate from some college course in journalism—a decent fellow, but a bit of a fool, who had somehow or other got it into his head that a reporter is a journalist. It was against my wishes that he was sent to Highburg.

"He stood it for two or three weeks. He and the paper were treated shamefully.

"From the little he let out to us he was about as cleverly jollied and worried as a college-bred journalist, nose to nose with the real thing, can ever hope to be. Anyhow, he sailed over here about 1 A.M. one day, looking white about the gills, chucked his resignation on the desk, and walked out of the office. Ridgely is out for blood so far as the combination is concerned.

"Judging from a word or two that Ross dropped to me, I fancy that the Highburg gang gave him a fake tip on an alleged red-hot scandal, the villain of which was Ridgely himself. You know that our old man is a copper-bottomed moralist, and the idea of his name being mixed up with a yarn of the kind that Ross went out on has made him as mad as a stump-tailed mule in fly-time.

"So, Ridgely told me to hunt up the best man I know to take charge of Highburg and avenge Ross and *The Sentinel* by squashing the combine; or, at all events, making it feel sort of anxious and keep it hustling. Naturally, Billy, I plugged you for a game of this kind."

"Thanks," replied the other meekly. "In a game like this, though, the peg is likely to be put in a hole."

"A joke, by thunder! But the point's denied. You are to put the other fellows in a hole."

"Anyhow," went on Leigh, "I don't see how it can be done. Bevins has his own ideas about a man working for two papers at once, and I'm pretty sure he wouldn't cock the kind eye at a proposition of this sort. Besides that—"

"Besides what?" asked Staynes.

"Well, I stand pretty well with the Highburg lot and the boys generally, and —oh, hang it, Sam, you know how it is! This business isn't what it's cracked up to be, but we don't try to queer each other, unless we happen to hail from some blooming *Alma Mater.*"

CHAPTER III.

Why Vincent Objected.

LEIGH was voicing one of the several charges that reporters of the older school are in the habit of making against the newercomers — that the loyalty, each to each, and the freemasonry that characterized journalism in years that were, is

fast vanishing before the influx of recruits from the "better classes."

What had at first been necessity became habit. And so the old-line reporter possessed a faithfulness to his kind that was as unfaltering as it was unselfish. Self-sacrifice, if a brother reporter was concerned, was the general rule.

It seemed to Leigh that he was being asked by Staynes to violate one of the fundamental ethics of his profession.

Staynes understood.

"Look here, Billy," he said quietly, "I think you know me well enough to believe that I'd be the last one to hurt any man who deserved a show. But I don't feel any scruples about that Highburg crowd. When it comes down to cases, the combination is just a rum-soaked aggregation of poker-fiends who don't attempt to earn their salaries, but hang on, simply because they've got Highburg cinched.

"We're just asking for what we're willing to pay for, and that is the news of the district. We are being done out of this, as are all the rest of the newspapers, by a conspiracy of loafers. It isn't fair—it isn't right, Billy, and it's chaps of the Highburg kind that give the boys and the business their bad names in certain quarters. People don't understand that fellows like the combine men are the exceptions, and not the rule."

Leigh winced. Staynes had unintentionally made a bull's-eye. The reporter and a certain Miss Vincent had had an "understanding" for many months. Leigh would fain have had it blossom into an engagement proper, but when he sounded the elder Vincent—an estimable but peppery gentleman, possessed of an independence acquired through the medium of a painters' supply business—he was told that no daughter of the house of Vincent should ever receive papa's consent to unite herself with a member of "so demoralizing and dissolute a profession as journalism."

Mr. Vincent, in this connection, recited lurid tales of reporters' doings as given him by one of Leigh's rivals. Even the girl herself had asked Billy how he could remain in a calling that, as Mr. Appleby had assured her—Mr. Appleby was the rival—was the last resort for drunken and dangerous characters. And two days later the show-cases outside of Appleby's store—he being a prosperous retailer of leather goods—were seized by the bureau of encumbrances.

"I have also had it pretty straight," went on Staynes, "that the combination has raised the limit of its continuous performance game—it's a dollar ante now—and nobody in the crowd seems to mind it. Money seems easy with them since that Mainway contract deal." He paused, and looked significantly at the other.

Leigh's lips tightened. "Do you believe this?" he asked.

"I certainly do. I have my intuition, Billy, as well as my information. But apart from that, there are joints running wide open in Highburg that would have to close up right away if they were properly written up, but there's never a cheep about them from the combine.

"Why? The logic of the thing is that there's more money in it for the boys to leave 'em alone than there is in going for 'em. Only last week we offered double-space rates to Higgins, of the *Messenger,* for a story on the Harrow Street Casino, and promptly got a hasty 'No' from him. How does it look to you?"

"It looks like dirty business," replied Leigh slowly and frowningly. "Sam, I'd hate to think this about these fellows. But—if you—if I—could make up my mind that it were so, I'd go for them until they smelled brimstone."

Leigh was displaying another trait of that complex creature, the newspaper reporter—his professional honor.

Remembering that Leigh was a sturdy example of journalistic fealty to one's employer and one's self, it is easy to understand how he was beginning to feel toward the combine, in view of Staynes's conclusions regarding it.

It may be that his jealousy for the good name of his vocation was none the less assertive by reason of the estimate Miss Vincent had placed upon it.

"Lastly, Billy," resumed Staynes, "we'll make any terms in reason with you. You propose 'em, and I think that I can safely commit myself to declaring that we'll accept 'em. But, if I were you, I'd tackle the job on space—"

"Space?" cried Leigh. "Why, Sam, if I should come with you—which I don't say that I shall—I won't get in a couple of columns a week after I've declared

myself. You know that they'll head me off everywhere and anywhere. News will be scarcer for me than chunks of radium."

"Precisely, and you'll then get your mad up and proceed to throw things into the combine and smite it, and amass shekels at such a rate that I'll have to cut your bills to keep you from busting the cashier."

The reporter flushed. "Quit your kidding, Sam," he said, "and I'll think this over. If I get my own and Bevins's consent to pitch in—which I'm not at all sure that I shall—when do you want me to start?"

"Soon as possible, if not sooner. And, Billy, I'm not trying to jolly you, believe me. If I hadn't believed that you were the right man for this proposition, I wouldn't have sent for you. I like you all right, but not to the extent of asking you to hold down a job that was aces too high for you.

"Ridgely thinks I'm all to the mustard in the matter of good judgment, and I'd hate to have him find out that he was wrong. That's why I've sent for you."

Leigh smiled the smile of a man who wishes it to be seen that he knows that he is being chaffed, but enjoys it.

"And," added Staynes, "I'll do the square thing by you. You shall have a weekly guarantee of an amount equal to the space that I'm positive the district will yield you at the end of three or four months."

The city editor knew that to get the best out of a man you must make him feel that you believe in him.

"That's very good of you, Sam," said Leigh, rising; "and I'm half tempted—no, I won't say that. You'll get a note from me to-morrow."

The interview ended, and Staynes telephoned to his chief's room that he had secured Leigh for the Highburg district.

Notwithstanding all this, Leigh was nourishing a pet project, the fulfilment of which would mean his breaking for all time his journalistic ties.

In a nebulous sort of way the germs of the project had been with him many moons, and for several reasons, including the little Vincent girl.

But the idea did not take definite shape, curiously enough, until the evening of his interview with Staynes. The shaping came about in this fashion. After leaving the *Sentinel* offices, Leigh strolled over to the Press Club. There he met Herrick. Herrick was a veteran in the business, and telegraph editor of the *Morning Despatch*.

He and Leigh finished their last game of crib, and the latter rose to go.

"What's your hurry, Billy?" asked the older man.

"Want to grind out some of my Saturday stuff to-night," was the reply. "Going to the dinner of the old Highburgians to-morrow, and so shall be a day shy this week on my usual work."

Herrick grunted discontentedly. "Same old grind. Same old everlastingly turning out copy. Life for us just so many sheets of copy, day in and day out. Talk about machine existences! Billy, why don't you get out of the business before you're stuck in its mud as I am?"

"How, George?"

"I was standing on our steps to-day watching the procession on Newspaper Row," went on Herrick musingly, "and about two-thirds of that procession was made up of broken-down newspaper men trying to borrow quarters. The business had sucked the youth and vigor and brains out of 'em, and then—like the bloated old spider that it is—it had chucked their empty, useless carcasses out of its web so that fresh victims could take their places."

"Not so bad as that," cried Leigh, with a laugh. "Not quite so bad as that, surely!"

"But it is," returned Herrick. "I saw dozens of 'em—dozens. Men who, in the old days, were splendid fellows—star reporters, who earned just as much as they chose, and whose expense bills were always O.K.'d without a kick; high-rollers, good fellows; and now, Billy, that hopeless, gray-haired, shabby, unshaven line of ghosts of the men who were ought to be a warning to you—I'm too old to take it—to get out, and get out quickly."

"But," said Leigh gently, "don't you think that the men rather than the business are to blame, George?"

"Not entirely, let people say what they please," replied Herrick, with a sigh. "When you subject a man to an abnormal strain for twelve hours or so at a stretch he's likely to look for some sort of abnormal relief.

"You get your midday assignment, and

you sweat blood over it for three or four hours. Then you hustle back to the office and proceed to turn out a column or so of copy at a 1.49 gait, doing your work amid sounds and under conditions that would send the average citizen dippy. 'Tis a joyous life, Billy, and—cut it as quickly as you can."

Leigh didn't smile, but again asked: "How, George?"

"How? It's a curious thing, Billy," replied Herrick, "that we can always find out and look after and chase to a finish everybody's business but our own. Give us something to do that really doesn't concern us, but concerns somebody else, and we're happy and will serve it up to the queen's taste.

"But give one of the boys an assignment to look after his own interests, and see what a condemned hash he'll make of it. Yet, there's no class of men in the world that ought to do better for themselves than we, and none that do so badly by themselves by the same token."

"Admitted," said Leigh. "But, again, how?"

Herrick droned on: "We meet everybody and talk to everybody and, if we chose, could make friends of everybody. But, do we? No. Our cards admit us everywhere and anywhere, from the cell of the burglar to the sanctum of the President. But do we ever realize our opportunities?

"Nope. Heaps of people—politicians, folks with schemes, men with ideas—would give their eye-teeth to have the open door that we own. But we just roll along, content, like the chumps that we are, to barter our best—our years, health, work, and chances—for that measly little slip of paper that the auditor shoves at us on pay-days."

Leigh, with a shrug of his shoulders, rose to go.

"Stop a minute, Billy," said the other, laying a detaining hand on the reporter's arm. "I know I haven't answered your question yet, but—but, when I get to thinking I get to prosing and—regretting. Now, listen, you're young, and have an education that hasn't got frills on it, but is all to the good as far as the essentials are concerned.

"You've what, in our police-court society persiflage, would be called a 'pleasing personality.' You have a gift of gab and a way of making friends. You are a somewhat crude, but fairly close, student of human nature. You know a whole lot of people, and you are familiar with the machinery and procedure of the courts. You must have picked up more or less points about the law in a layman sort of way."

"Embarrassing things for a modest fellow to hear about himself," laughed Leigh. "But, admitting them for the sake of argument, what then?"

"The answer's obvious."

"Then I must be a dense one, for I can't grasp it."

"It's—cut the copy grind and go in for the law. Half of the things that I have named as possessed by you are those that full-fledged lawyers labor for years to acquire—a big acquaintance, access to influential people.

"You have these ready to hand.

"The boys would, as you know, boom you along from the start. The average young lawyer has to learn lots about people and piles of humans and all manner of conditions of life. And the qualities, Billy, that make a good reporter have much in common with those from which a successful lawyer is shapen."

As Herrick ceased speaking, Leigh felt vague promptings and desires to cut adrift from the reportorial life. Herrick seemed to have furnished the needed touch. Leigh began to wonder that he had never recognized his possibilities in the same distinct fashion and on the same lines that his companion had done. A rush of conviction came upon him.

"Old man," said he, holding out an impulsive hand, "I'll do it. I'll do it, I promise you. And thank you for this—this advice."

Herrick took the proffered hand and held it, looking at him searchingly. "I think you will, Leigh," he said at length. "And I think, too, that you'll do it properly at that. Good night."

CHAPTER IV.

Meeting the Enemy.

LEIGH sat up late, thinking, planning, and—dreaming. The acceptance of the *Sentinel's* offer would more than

double the amount of his present income, if the district panned out even moderately well.

With care—he was an orphan, with no one dependent upon him—he could save all these added earnings, which, allied to the sum that he already put by, would at the end of a year or so put him in possession of two or three thousand dollars.

Having this money in hand, he would chuck the *Sentinel,* and attend evening sessions of the Martport Law School, retaining his position on the *Record,* however, and doing his utmost in the meantime to increase and reenforce his friends, especially those who might be useful to him when he was admitted to the bar.

This last event he determined should take place in about four years. By that time he would be thirty. And while he was building up his practise he would have his nest-egg to rely on.

And Mildred—she being Miss Vincent—would surely wait for him. So, with this last blessed conviction strong upon him, likewise the resolve to speak to Mr. Bevins in the morning, Leigh went to bed.

The proprietor of the *Record* gave consent to Leigh more readily than the latter had anticipated.

"I think, Leigh," said Mr. Bevins, "that the *Record* won't suffer by this, and so—go ahead. And, my boy, I'm not going to sermonize, but I'd just like to remark that the great majority of young men, who are otherwise sincere in their hunt for success, overlook the fact that honesty—honesty of purpose, of intention and action—is just as tangible an asset as a certified check.

"Here's a case in point. I'm going to let you do the *Sentinel* work, because I know you're honest. The *Sentinel* job will net you more per week than you're getting here, so you tell me. There you are. I won't enlarge on the moral. Wish you all kinds of good luck, Leigh, but don't overdo it, you know. If you begin to feel the strain, drop the work like a hot potato."

Leigh telephoned to Staynes, and two nights later entered on his task of combination-breaking.

The meeting-place of the Highburg was a small room at the rear of the big "reading-room" of the Municipal Hotel. Once upon a time the reading-room was the scene of nightly dances, when the hotel was known as "Brannigan's," and what were now the reporters' quarters then being the wine-room."

Even Highburg couldn't stand Brannigan's after a couple of years or so of its malodorous existence.

So the place changed hands, and, as the Municipal was later "backed" by Assemblyman and local boss, James P. Burke, it became the semiofficial rendezvous of the majority of those politicians of the borough who were affiliated with the party to which Burke gave allegiance.

It was a rather imposing-looking establishment, with mirrors, mahogany, and electric lights. There were three floors over the café, in the lower of which lived the manager of the hotel, while those above were allegedly rented for pool-rooms.

Access to the reporters' room could be obtained either from a private hall that ran parallel with the café, or through the reading-room. But, as the combine had a game of its own going—as Staynes had said—the doors opening into both reading-room and hall were usually locked.

Men brought news to the combination at the same time that they brought thirsts to the adjoining bar. The quarters themselves were as scantily furnished as such retreats usually are. Dust, litter, and furniture—creaky and disreputable—are somehow or other the invariable accompaniments of the sedentary phase of the reportorial life. There were seven tottering desks that, when in use, had to be coaxed into steadiness with slips of wood and chunks of paper; a dozen chairs of all shapes, sizes, and stages of decay; a fire-alarm, with clock register and gong; a telephone, and the inevitable files of tattered newspapers.

Leigh reached the place at about 6 P.M., and rapped on the door leading from the reading-room. Bronson, of the *Call,* replied by opening a peep-hole in the door and surveying the visitor through it. The "peep" was a survival of the Brannigan days, but was nevertheless found useful in more ways than one by the "combine," chiefly as an entrance and exit for glasses.

"Hallo, Leigh," said Bronson; then he added, with some touch of hesitancy: "Will you come in?"

The other accepted the invitation and plunged into a blue haze of tobacco smoke. Four of the reporters were hard at work at poker. Jimmie Allen, of the *Clarion,* with his legs comfortably elevated on a desk, was puffing furiously at his brier and reading snatches from a sporting paper, while Griggs, of the *Examiner,* his head resting on his desk, snored in staccato spasms.

Leigh, noting these things, experienced a flash of anger and disgust. The deliberate disregard of duty made manifest by the combine exasperated him.

"Well," said Leigh, after some small talk, "I'm coming among you boys, if you'll have me."

"Sure, Billy," cried Allen. "Glad to hear it. *Sentinel,* I suppose?"

"Yes," was the reply. "Side issues, though. I'm still with the *Record.*"

"Space?" asked Ely, of the *Supervisor.*

Leigh nodded.

Ely smiled. "Then, I don't think this will be a paying proposition."

"Why?"

"Well, you're to work in with the combine, I suppose?" queried Ely, evading the reply direct.

"If I can."

Ely looked at him. Something in the other's tone was significant.

"Of course you can, Billy," said Allen heartily. "You're just as welcome here as if you'd been born into the 'push.'"

Allen was a huge, bluff, good-natured fellow, who was affiliated with the others simply because he hated to be on unfriendly terms with his fellows.

"Thanks, Jimmie," said Leigh. "I hope the others will second your resolution."

"Join us?" invited Bronson, as he riffled the cards preparatory to a fresh deal. "Yes, sit in," added Halstead, of the *Free Press,* pulling a chair over to the table.

"I'll have to pass this time, boys," replied Leigh, "as I'm going to take a walk round the district presently and make myself known to folks. However, I'll watch the game a bit."

Bronson laughed and glanced wofully at his scanty collection of chips. "It doesn't look as if I were prospering by my phony work, anyhow," he said. "I'm trying to get back a bit of last week's salary that Allen and Ely got their hooks on on Tuesday."

(To be continued.)

BOILING THE STEAM.

BEFORE entering into a discussion of the advantages resulting from the use of superheated steam, it is first necessary to define it.

Superheated steam is nothing more nor less than very hot steam. It is steam of a higher temperature than that which it attains in the boiler in coming to boiler pressure.

This higher temperature cannot be obtained by adding heat to the boiler when the steam is in contact with the water from which it is made; but the additional heat will merely serve to make more steam.

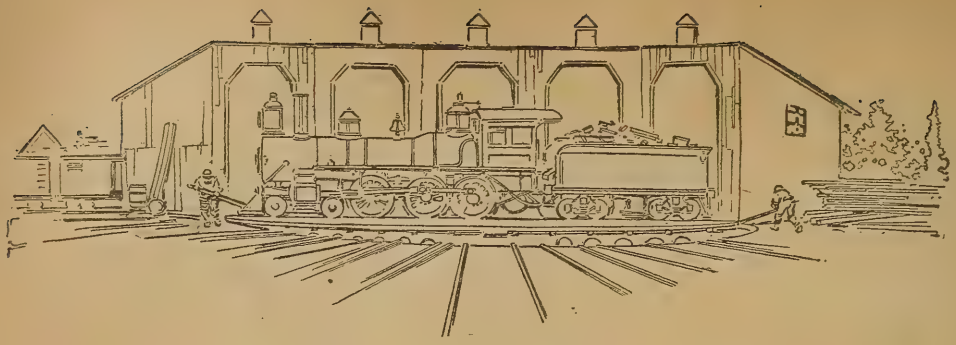
If, however, the steam is separated from the water and passed over very hot surfaces, it will receive additional heat and will then become superheated. This is what is done in a locomotive, the steam on its way to the cylinders being made to pass through the superheater apparatus in which the temperature is higher than that of the steam and in which it thus receives additional heat.

What advantage is there in using this very hot steam?

When steam enters a locomotive cylinder it becomes cooled by coming in contact with the cylinder walls, and it becomes further cooled by performing work in the cylinder. If the steam is of ordinary temperature a large amount of it is turned into water because of this cooling process.

As this water has no power and does no work, all the steam from which it is made is wasted. Furthermore, this water in the cylinders is dangerous, because, as we all know, if not released it causes broken cylinder-heads, pistons, bent piston rods, etc.

If superheated steam is used, all the heat that has been added to it may be given up before it is cooled down to the point of becoming water. By adding sufficient heat to the steam, therefore, all the loss of power which otherwise occurs can be prevented and a great saving in coal and water is thus effected.



Letters of an Old Railroad Man and His Son.

BY HERMAN DA COSTA.

No. 4.—A FIFTEEN-MILLION-DOLLAR PUZZLE.

Jim, Being in a Private Earthquake of His Own, Misplaces His Note-Book, but Finds that the G. M. Is Onto His Job.

JIM TO THE OLD MAN.

DEAR DAD: For the last month I've been attending banquets, and feasting like a lord. Sounds queer for a hard-working railroad stenographer, doesn't it? But Bigby's been ill again, and I had to take his place.

At this time the annual inspection of the road took place, and so I had to go along with T. F. again, on his private car. All the big bugs on the road were on board, and I got so that I could look the president in the face without wondering if he saw me. Vice-presidents were as common as blossoms in spring. Any one below that grade I hardly noticed.

Of course you know how popular T. F. is. From one end of the line to the other, whenever we stopped at a town the mayor usually came out with speeches and a band, and at night everybody attended a big banquet. T. F. made me go along with him.

At the big cities there was usually a delegation from the Railway Club on hand, and at night more speeches and more banqueting. T. F. made me go to those also.

I have finally got so that I can tell what the little fork with the long handle at my place is for, and whether I should wait for the waiter to bring a new plate or eat out of the old one. The proudest moment of all, however, was when the superintendent of the Momongah division, while I was at one of the banquets, copied everything I did. I know he did, because several times I picked up the wrong things and watched him out of the corner of my eye.

There has been just one thing that's

bothered me at these banquets. At the opening they have a cocktail, for the second course they've some kind of wine; for the third they have something else to drink, and right down the line it goes that way. At the finish they top off with some more wine.

A Knotty Problem.

Now, I don't drink—not because I'm against it, but because I never thought about it. Everybody else drinks at these banquets, and I always feel a little silly about acting the goody-goody boy by passing up the drinks when they come along.

The first night I did it I saw T. F. grinning like an ape, and I got red all over. I knew at once what he thought. He thought I was trying to show off to him that I was an upright, virtuous young lady. So when the next banquet came along I tackled the cocktail.

I know now why it's called a cocktail. It tickled my throat so much that I had a fit of coughing. Then T. F. grinned more than ever. Fortunately the superintendent of the Momongah division wasn't there, or I'd have lost caste, but I was determined to show T. F. that he was mistaken, so I drank everything that came along.

Just as we got down to the cigars an earthquake shook the town. I started to jump up, but nobody seemed to notice it. I said something to my next door neighbor, but it wasn't what I intended to say. I don't know what it was just now; the words got mixed up on the way out. Luckily he wasn't listening to me.

A Private Earthquake.

I shut my mouth then, and held it closed, although I did long to open it and say something. Not anything in particular; just words. When the earthquake came the third time I knew right away what had happened. I guess you know, too, dad.

I sat still and closed my eyes, but there was a canary swinging on its perch inside my head, and it shook everything up so that I didn't know whether I was coming or going. Those fellows began talking just then.

I was supposed to report the speeches. That canary kept on swinging, however, and when I looked at my note-book next morning the only thing I could read was "Gentlemen." I threw it out of the window and told T. F. it had been mislaid.

When the next banquet came along I balked at the drinks. T. F. had been watching me, and I saw him grin again, so I got red again. But I stuck it out, and the next morning when T. F. asked me if I had again mislaid my book, I handed him the speeches written out.

Then he grinned again, and I got red again. One would think we were a couple of lovers from the way we kept that up.

I let two more feeds pass up without drinking, but you know, dad, I have always had a weakness for cherries, so when the next cocktail came I had to have the cherry and the only way I could get it was by drinking the cocktail. Whereupon the same performance was repeated by T. F. and myself.

When Asked to Drink.

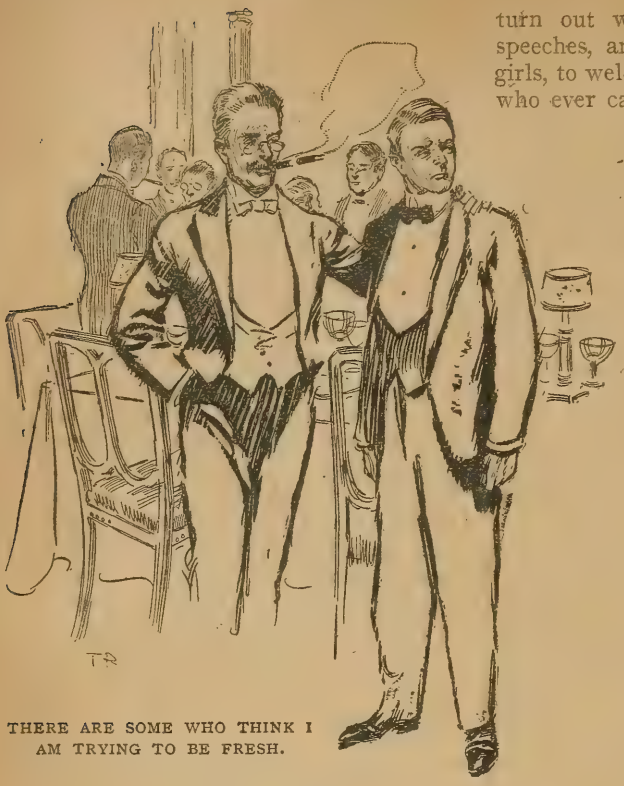
The floor didn't rock that night, though, although I did have a little headache—no doubt the result of an earthquake in some other town. But I finished my notes early in the morning, laid them on T. F.'s desk, and scooted out of the car before he could ask me about them.

Seriously though, dad, this business of drinking at a banquet is puzzling me. There are a lot of big men assembled together, and they always notice it if I don't drink. Then the majority of them try to get patronizing, and that makes me hot.

I can stand almost anything but a fellow who thinks you are a milksop, and treats you like it just because you don't drink the way he does. Then, when I do drink, there are some who think I am trying to be fresh. And I hate that almost as much as the other.

I don't want to be a spoil-sport, and I have enough common sense to know that too much drinking is going to hurt a man. I never formed any ideas on it before, because I never had thought of it.

I can't see how it'd hurt me to drink at a banquet, and yet I can understand that a good many people would think I



THERE ARE SOME WHO THINK I AM TRYING TO BE FRESH.

was a sport if I did it. Drink doesn't hurt me at all; I don't care much for it, and I know I can stop it when I like.

I don't want to say that I'll never drink, for that would merely be stating that I was afraid I'd become a drunkard, which would be simply cowardice on my part. T. F. and all these others may drink, and yet they don't become drunkards, and they're widely respected.

Cheers and Pink Lemonade.

It's one on me, dad. I don't know exactly what I ought to do. Of course, I feel it's better for me not to drink, but at the same time I don't want to be known as a crank. I have simply got to be a mixer in this railroad business if I want to become anything at all. I know T. F. doesn't look at it the way many men do—think that because I take a drink I am a booze fighter.

I've enjoyed our trips immensely. Of course, T. F. has been the attraction everywhere we went, but there is something mighty fine in having a whole town turn out with flags, and cannons, and speeches, and pink lemonade, and pretty girls, to welcome us as the only fine crowd who ever came down the pike.

I've lost about ten pounds since I came here, but I go to the Y. M. C. A. gymnasium regularly. We have a big swimming pool there, and almost every night when I'm not on the road, I go in for a little while. As soon as I get some pictures taken I'll mail you one.

Give Miss Pesnelle my regards, and tell her you bet I like pumpkin-pie. When I come home on my vacation next year, I'm going to bring a silk muffler for her, and a pipe for Uncle Hinckley.

I wrote mother yesterday; give her my love. And don't forget to write soon.

Affectionately, JIM.

THE OLD MAN TO JIM.

DEAR JIM: You must be getting to be a mighty important person when you travel around in private cars with the general manager. A good many men who have been with the road ten to fifteen years can't say that much. One or two fellows I know right now attach more importance to themselves because they go out on trips with the G. M. than because of the work they do. I don't reckon you will go that way, though.

When I read to your mother your description of a banquet you attended she held up her hands in surprise. It was the drink part that got her. You know she's a member of the W. C. T. U., and I could see your finish the minute I began reading it.

At last, however, she admitted that being as you were her son you wouldn't go to the bad. It's queer about these women; they lay down the law for other women's sons, fearin' that they will go to the dogs if they don't, while their own sons are always sproutin' wings right behind their shoulders, and wearin' a halo on every day of the week.

While we are on the drink question, I

want to tell you a little incident that happened 'way back in the eighties, about twenty years after I went with the road. Old John Barrett was president of the road then. He had pulled it out of one of the biggest holes it had ever been in, cleaned the rust off the engines, borrowed money enough to buy new rails, and had finally gotten it so that the dividends were coming in regularly.

A Road for Sale.

The old man was one of those aggressive, deep-eyed fellows, always livin' twenty years in the future. The P. F. R. was a big competitor of the B. and D., but the B. and D. had the right of way. The old man saw that New York was goin' to be the biggest traffic-producing place in the country, so he began to lay his lines to push the road through to New York. Then it stopped at Baltimore.

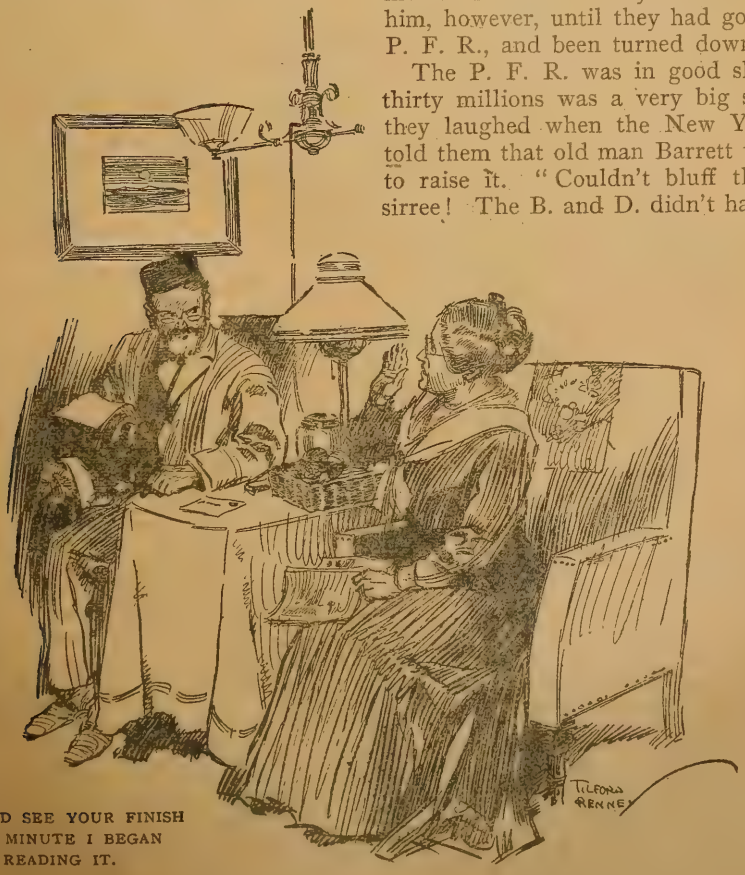
He had a son named Tom, and, like most fathers, he thought Tom was the finest young fellow that ever trod shoe leather. The old man went up to New York, and for about six months had confidential dickerings with the president of the little line that ran from New York to Trenton, New Jersey.

This little road was in pretty bad condition, and when the old man came up for a dicker they were quite willing to sell out to him—if he had the price.

It was a mighty big price for those days—somethin' like thirty million dollars, but the owners of it saw what old Barrett saw—that it would be a traffic-maker equal, in time, to all the traffic of the B. and D. The dickering was carried on so secretly that not a soul got any wind of it.

Finally the old man got matters fixed so that they agreed to let him have the road for fifteen million cash and fifteen million in stock. They didn't close with him, however, until they had gone to the P. F. R., and been turned down.

The P. F. R. was in good shape, but thirty millions was a very big sum, and they laughed when the New York road told them that old man Barrett was goin' to raise it. "Couldn't bluff them; no, sirree! The B. and D. didn't have thirty



I COULD SEE YOUR FINISH THE MINUTE I BEGAN READING IT.

millions to its name; what's more, they couldn't get it."

Tom's Big Task.

Old man Barrett sent for his son Tom one day. Tom was a fine-looking young man, and the old man's heart swelled with pride as he stood before his desk.

"Tom," said the old man. "I've got a little work on hand for you to do. Do you reckon you can start for New York this noon?"

WHEN THEY SAW THE CHECK FOR FIFTEEN MILLIONS, THEY GASPED.

"Yes, sir," says Tom.

"I want you to go up there," says the old man, "call on Jim Bland of the N. Y. and N. J., and hand him this check for fifteen millions and this certificate for stock in the B. and D. We have bought this road."

Tom's eyes opened and his jaw fell. "Gee whiz, dad! Bought his road? Where'd you get the money?"

The old man grinned. "Never mind where I got the money, son. I got it all right. That's a certified check. Jim Bland's directors will be in session when you get there, and he will give you all the papers in exchange for this. They are drawn up and waiting for you. Get your hat and grip, and start out right away.

A Fateful Stop.

It was the biggest job Tom had ever done in his life, and when he swung on board the train he felt as proud as Punch. He got into Philadelphia on time, and as he had about four hours to wait for the New York connection, he went up to the hotel to get a drink.

It was somethin' he had never told his father about. He drank like a fish at times. When he had put his glass down on the bar, in strolled one of the P. F. R.'s traffic men. He knew Tom pretty well, so they had another drink. Then Tom treated him, and about that time in came another P. F. R. man, from the operating department. He knew Tom also, so they took another round of drinks.

"What're you doing in Philadelphia, Tom?" asked the traffic man.

"No, you don't," said Tom. "You can't pump me. You'll be sick enough about it to-morrow, though."

"Maybe he's goin' to buy Philadelphia," suggested the operating man. "Looks like he'd like to buy the earth."

Tom grinned. "You're near it," he said. "But not near enough." He motioned to the bar-tender, and another round of drinks came out. The traffic man winked at the operating man over Tom's shoulder.

Pride of Possession.

They had been out with Tom before and knew his failings. Tom was searching in his pockets for change to pay for the drinks, when the operating man threw out a ten dollar bill on the bar.

"Don't worry about money, Tom," he said. "Borrow from me if you need it."

"Huh," says Tom. "I've got more money in that grip over there than you ever saw in all your life."

"Been robbing a bank, have you?" says the traffic man.

"Nope," answered Tom. "But we're goin' to rob a railroad. You'll find out by to-morrow all right, all right." He reached for another drink.

The traffic man knew about the N. Y. road being in the market, but he didn't think for a moment that the B. and D. was goin' to buy it. For curiosity's sake, however, and thinking that Tom might have some big traffic deal up his sleeve, he began to buy Tom drinks. Pretty soon the boy was just about able to walk by holding on to chairs.

"Where're you goin' to stay to-night, Tom?" asked the traffic man.

"Goin' to New York," says Tom.

"He's going to jump off the Brooklyn Bridge!" suggested the operating man.

"You fellows can talk all you want to," says Tom, "but to-morrow you're goin' to find that I've pretty nearly bought New York."

"Oh, stop your bluffing," spoke the operating man, pretending he was disgusted. "You haven't got money enough to buy a house there."

Cat Out of the Bag.

"I haven't, haven't I?" exclaimed Tom angrily. "I've fifteen million dollars right in that grip there?"

The two men looked at each other, then laughed.

"Come on, Tom," says the traffic man. "Have another drink, you don't know what you're talking about."

Tom was so full of whisky that he forgot all his father had told him. "So you don't believe I have fifteen millions, eh!" he stammered. "Well, I'll show you!"

He rushed over to his grip, and with some trouble managed to open it. By this time his two railroad friends were wildly excited. When they saw the certified check for fifteen millions, with John Barrett's name scrawled across the bottom, they gasped. The traffic man, realizing what it meant, whispered to the operating man to make Tom dead drunk, and put him to bed, then got away on some excuse, and rushed to headquarters.

Inside of twenty minutes he had explained matters to the president of the P. F. R., and that gentleman sent out a hurry call for his directors. In another twenty minutes they had a quorum, and one hour after the meeting had taken place the P. F. R. had been formally directed to purchase the N. Y. and N. J. for twenty millions cash and ten millions in stock.

Euchred.

How they got the money nobody ever knew, but it was whispered in Philadelphia that if there had been a run on half a dozen banks there they would have failed. At eight o'clock that night the B. and D.'s option on the New York road expired, and at nine o'clock the directors of the New York road had sold their line to the P. F. R.

Tom Barrett was never heard from again. They found out that in the morning, when he heard the news, he mailed the check and stock back to his father, and took a ship to South America. Old John Barrett died of a broken heart, so the papers said.

This is actual history. To-day the B. and D. pays the P. F. R. four hundred thousand dollars a year to run over their line into New York, besides a percentage on all traffic hauled, and the P. F. R.'s last report, that I remember, showed it was making six millions a year over the New York division.

This is an extraordinary case, I admit, but I always thought that if drink was going to make an ass of a man he might as well quit it. And there are lots of men it does affect that way.

Be a good boy, and work like the deuce.

Your affectionate FATHER

(To be continued.)

It takes a long tunnel to pierce a high mountain, but there are always two ends. It's the same with trouble.—Reveries of a G. P. A.

AND "GOOBER" BROWNE SLEPT.

BY JAMES FRANCIS DWYER.

He Just Kept the Trombone Snore Turned On While the Texan Related This Thrilling Tale.

THE green conductor sat in the old car that had been converted into a lounge and lunch room at the Blue Point terminal. He listened to the stories of men wearing numerous bands of gold braid on their sleeves, who spoke regretfully of the old times and shook their heads over present-day methods and administration.

"Goober" Browne was telling of the big loads that he carried down to Coney in the old days, and "Goober's" imagination was juggling with figures in a way that would make a Wall Street tipster green with envy, when the new conductor shifted his position and jerked an interruption into the ancient's romance.

"I carried a load in a horse-car down in Texas once, and it put your big bunches into shadowland for keeps," he said dreamily.

"Goober" swung a glance of withering contempt on the interrupter.

"Horse-car?" he snorted. "Say! there's a guy of your breed running a pill-box on wheels made out of trouser buttons over at Hoboken."

The new man joined in the ripple of laughter, while the indignant "Goober" folded his arms, pulled his sunburnt cap down over his eyes, and gave other visible signs to show that he had no further interest in the past doings of the disputant.

"What part of Texas was that in?" questioned a freckle-faced motorman who was attempting to eat two crullers while figuring on his run-card. "I railroaded down there."

"Not on the circuit I mean," said the green conductor. "There were only two men on that road from the time it opened to the day it closed. I was one of 'em, and"—he glanced for a moment at the rather plain face of the "mote"—"the other was nearly as handsome."

The motorman choked from the combined effects of cruller and indignation, but the man from Texas gave no heed to his mutterings.

He industriously corraled the fragments of his own biscuit, wiped his mouth with an expired transfer, and, leaning back, calmly surveyed the group. As Tobey Graham expressed it, "he didn't look a very green man," and the railroader who covers up his past with a veneer of verdancy is to be respected.

"How many did you carry, bo?" asked a gray-headed nickel-gatherer.

"Something between three and four hundred," answered the greeny; "but as there were no fares collected on the trip, I can't be sure of the exact figures. All I know is that I've got the old guy's records skewered down to the rear platform with the tombstone of little happenings piled on top of them."

A grunt of disgust came from the hunched-up figure of "Goober" Browne, but the man from Texas calmly turned up one end of the seat cushion, converted it into a rest for his head, and, without further invitation, started to tell his story.

"It was down in a little hole called Loopdog, and some of the citizens of the place thought a lot of things like friendly feeling, communal interests, and civilization would be boomed hurriedly by running a horse-car between that burg and a one-eared place called Cactus Camp, about four miles away.

"The Cactus Camp cluster wasn't the sort of place a tired hobo would want to connect with; but the 'Advance Texas' bug had got the Loopdoggers on the get-

busy quarter, and they advanced to meet Cactus with a horse-car on which I was the junk-snatcher.

"It wasn't a wealthy corporation, that Loopdog and Cactus Camp Transit Company, but they were sports. They had one car, six horses, and two employees, and they had more hopes than the Pennsylvania Railroad Company. I got the conductor's job because I was the only man in the place who wasn't too tired to walk after a nickel, and the driver took the steering occupation because his girl lived half-way between the two camps, and no other job in the Union could give him the privilege of seeing her eight times a day.

"Say, you in the last-century overcoat! Don't throw your crumbs on me!

"Cactus Camp was started by a saloon-keeper. He knew a little; and so that every one who visited the place would have a good thirst when they arrived, he put his beer ranch on the top of the highest hill he could find, and all the shacks grew up in its shelter.

"The hill was awkward for the L. and C. C. Transit Company. It wanted horses with hind legs two feet longer than the front ones to pull the truck up that mountain, and a team with opposite leg measurements to drag it down again.

"It made us take pity on the mules. On hot days when we had no passengers

"THE LION LOOKED AS IF HE WASN'T IN THE HUMOR TO RECEIVE VISITORS."

for Cactus, we'd wait at the bottom of the slope till we were sure that there was a return fare. If he was a husky guy, we'd entice him down the hill by telling him one of the mules had the measles; but if it was a lady, we'd perform the ascent. The driver, being in love, was the most chivalrous horse-steerer in Texas.

"We had been running the shay about six weeks when a circus wandered up the mountain to Cactus, and we had a busy day pulling sportive Loopdoggers over to have a look at the outfit.

"I remember that day well. It was blazing hot, and when we got over to Cactus, round about seven o'clock in the evening, we decided to stay there, have a look at the show, and then drag the headquarters mob back to their roosts."

"Goober" Browne was snoring dismally, and when the Texan stopped for a moment to stare in his direction, "Goober" rushed the nasal music onto a top note that was so shrill it seemed to sting the silence like the crack of a whip.

"It was a pretty ordinary circ," continued the new man; "but the last stunt on the program stirred the mob. A fellow was booked for an evening call on a lion, but the lion looked as if he wasn't in the humor to receive visitors.

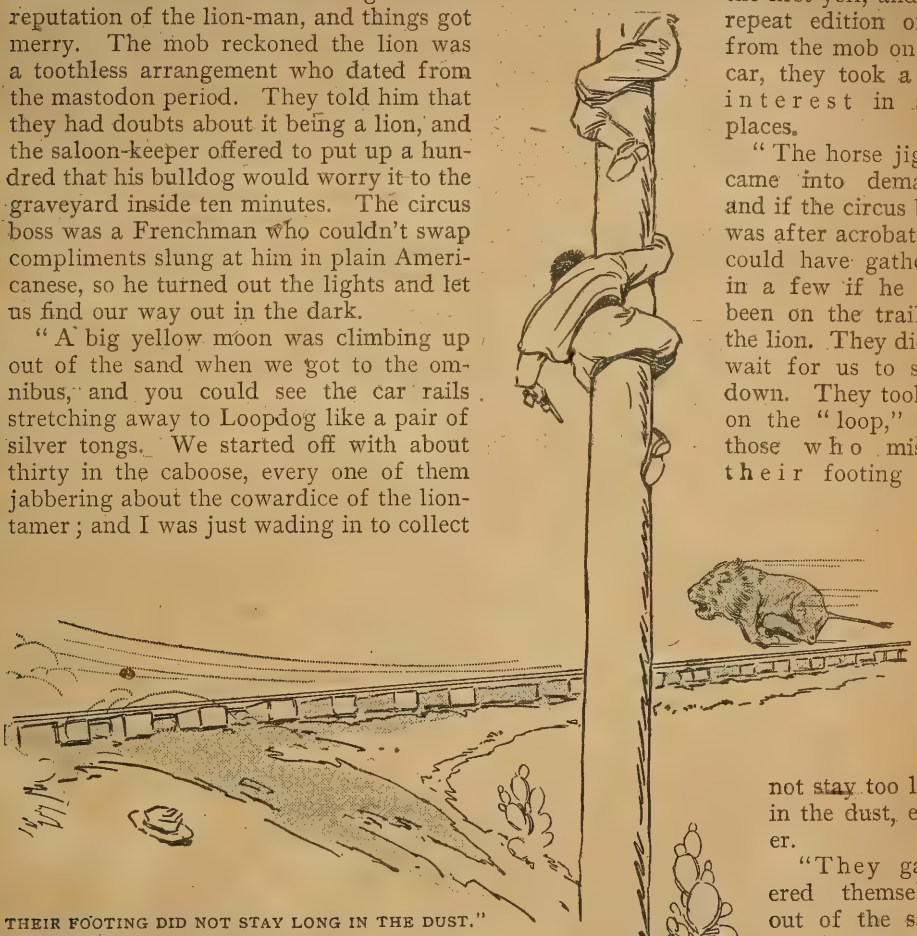
"He had toothache or indigestion or something; and when the guy saw the way in which the animal was do-

"THOSE WHO MISSED

ing a carpet-beating act by banging his tail against his ribs, he thought it advisable to postpone the visit.

"That didn't suit the Loopdoggers and Cactus Campites. They cut loose all their cold-feet terms and sent them against the reputation of the lion-man, and things got merry. The mob reckoned the lion was a toothless arrangement who dated from the mastodon period. They told him that they had doubts about it being a lion, and the saloon-keeper offered to put up a hundred that his bulldog would worry it to the graveyard inside ten minutes. The circus boss was a Frenchman who couldn't swap compliments slung at him in plain Americanese, so he turned out the lights and let us find our way out in the dark.

"A big yellow moon was climbing up out of the sand when we got to the omnibus, and you could see the car rails stretching away to Loopdog like a pair of silver tongs. We started off with about thirty in the caboose, every one of them jabbering about the cowardice of the lion-tamer; and I was just wading in to collect the junk, when a yell came from the circus tent.



"THEIR FOOTING DID NOT STAY LONG IN THE DUST."

"When I revolved my head, I got a fifteen-hundred-volt shock. 'Bout a hundred yards behind us, and streaking along on five-point speed, was the old toothachy lion that had nearly caused the riot. Hey, you with the snore trombone! Wake up! I'm going to tell about that record load."

"Goober" kicked viciously at the boot of a motorman that disturbed his rest, and, turning his head away from the story-teller, put more vim into his snoring.

"That lion started a boom in rapid transit that the L. and C. C. Company didn't provide against," continued the Texan. "The circus tent had been pitched a little way out of the burg, and all along the road in front of the car were Cactus Camp folk; and when they heard the first yell, and the repeat edition of it from the mob on the car, they took a big interest in safe places.

"The horse jigger came into demand, and if the circus boss was after acrobats he could have gathered in a few if he had been on the trail of the lion. They didn't wait for us to slow down. They took us on the "loop," and those who missed their footing did not stay too long in the dust, either.

"They gathered themselves out of the sand and made for the nearest telegraph-poles, but the lion took no interest in their movements. He was attracted by the rolling-stock of the company, and the fellows shinning up the bean-poles were no use to him. He just streamed after the car, and that love-sick driver let the mules know that they were to beat Lou Dillon's record if they didn't wish to be the *pièce de résistance* for the lion's supper!

"When we got to the place where the down grade began to be pretty noticeable, we had close on four hundred aboard that

car. What? They were three tier deep on the roof, the inside was fuller than a coffee cup that's running over, and the human salvage that was hanging to the platforms and cursing because the fellows wouldn't give it room to roost on was turning the main parade of Cactus Camp into a dust-storm with its trailing foot-gear.

"Coney? Shucks! I know the Coney loads! Why, if I wanted the fares on that run, I couldn't have got one per cent. Only the guys on the rim of the jam could get at their pockets, and they wouldn't let go to put their hands into them for all the transit companies between Duluth and Galveston. No, sir!

"Coney? These ancient guys that gallop up and down one track for the whole period between cradle and coffin think their old route is the greatest passenger drawcard in the Union.

"The lion had been gaining up to the time we struck the slope, but when we got there he began to see he would have to do the Marathon of his life to make a connection. The fall was about one in five, and that car gobbled up the rails like the Twentieth Century.

Didn't we rub-a-dub-dub down that mountain? What? The mules didn't bother to gallop. They skated! The moment they felt that the car was traveling faster than they were they sat down on their hindquarters and slid. Fact! They took a rail apiece, and the weight of that car behind them never gave them a chance to slide off.

"Say, that lion was no quitter. The mob in the car changed their opinions about him going down that slope. When he saw us mopping up the iron he did a *honk-honk* in the double bass and took up the challenge. It was the weight of the crowd that kept that box on the rail. She bucked and rocked till half the mob were seasick. We went first on one wheel, and then on the other, but the mules kept in the lead. They knew the kind of insect that wanted to board us, and they took no chances.

"Four of the mob on the roof subscribed a hand apiece toward the job of keeping 'Nosey' Peters with the outfit while 'Nosey' unbuckled his Gatling gun on the pursuer, but whether it was because his nerves were out of gear, or because the old box was bucking too much, the shots didn't seem to trouble the king of beasts.

"He thought it a come-on signal, and he responded with another *honk-honk* in the low bass to let us know he wasn't skying the sponge. All the time that load was squirming and cussin' and yelling fit to beat the band. They were standing on each other's toes and fingers and faces.

"If it hadn't been moonlight that lion could have trailed us anywhere by the noise that came out of the caboose.

"But didn't that car do the bucking bronco act! She capered and kicked and lurched and rolled till we were fair stupid from the tossing. Coney! Why, all this talk about the excitement of railroading in thickly populated places makes me tired. I've listened to a score of yarns today, and I'm feeling as gay as a guy that has toppled out of the Empire State when she's sprinting.

"Half-way down the hill I worked my way through the car to see what the driver thought of it. Besides, I didn't like to be the leading one in the deputation of welcome on the rear platform when the lion would come aboard.

"I told the driver he ought to write a message to his girl on one of the run-slips and paste it to the window, or some other part of the car, that the lion wouldn't be likely to eat, and he got mad.

"'Is he gaining?' he gasped, his face white as a sheet.

"'He'll lap us when we start to climb that little rise at the bottom,' I answered. 'He's got a burst of speed tucked away for the finish, and he'll give us the hustle act when the old box stops buck-jumping.'

"He stooped down and whispered in my ear, and that fellow's stock went up twenty points in my estimation.

"'Keep near me, an' be ready when I give the word,' he said; and you can bet a bunch of transfers to a brass button that I waited. They reckon a guy in love hasn't got much spare time for anything else, but that mule-steerer wasn't thinking of his girl at that moment.

"When we struck the level, at the bottom of the hill, every one saw that it was twenty to one on the lion. Those mules didn't have a hope of running away with

four hundred full-sized men aboard. The impetus that we got from the rush down the mountain sent us at a good bat along the level place and rushed us a little way up the slope, but then the mules had to tug in good earnest.

"The lion started to overhaul us, as if we were standing still. The mob on the rear platform was debating about throwing old 'Pinto' Nicholls over the dash, so that we could gain a little time while the lion was interviewing him, when Joe, the driver, kicked me in the shins, and we gave the whole gang a scare.

"Both of us went over the front dash together, straddled a mule apiece, and before the crowd knew what we were up to we had cut the traces, and they were running down hill to meet old woolly head, who was charging up the middle of the track.

"Say, you ought to have heard the yell that bunch set up when they found they were going to meet him.

"Did they scream? If that lion-tamer had been there he would have been pleased after the remarks they had made about his pet a few minutes previous.

"I was on for galloping right away, but Joe pulled me up, and there we waited, in the middle of the track, to see what would happen."

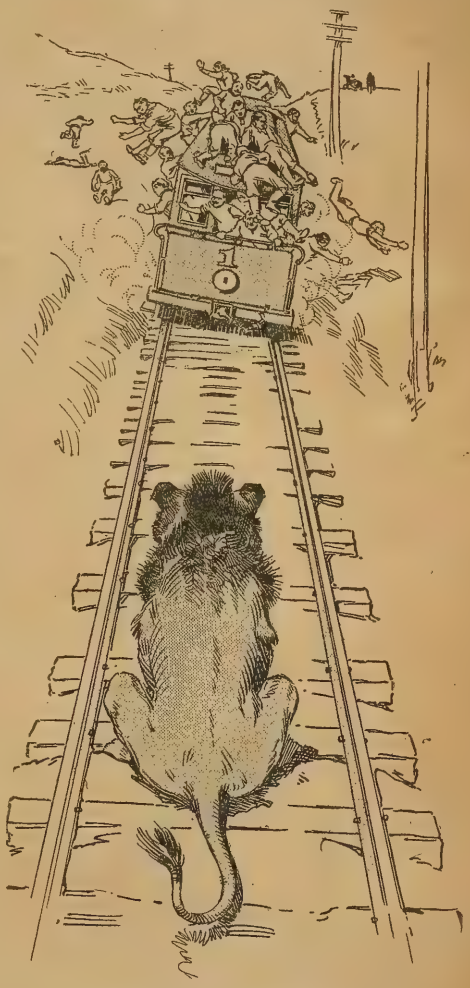
"And what did happen?" asked the freckle-faced motorman.

"Why, that little scheme of the driver's was only part of a big scheme that Providence was working out to rescue the bunch," answered the Texan. "When the lion saw the car coming back to him the old fool didn't have sense enough to get out of the way, but he sat in the middle of the track and made a grab at the leg of a drunken Loopdogger that was hanging over the rear dash.

"That was the lion's last grab. The fender of the car smacked him hard in the ribs, and he went backward. He tried to get on his feet, but the wheel got his neck between it and the rail; the weight of that four hundred soon did the rest.

"When Joe, the driver, saw how things had panned out he grabbed me by the arm and whispered into my ear. 'Stand by me,' he said, and then he galloped back to the truck. The crowd was swarming out of it like bees, and Joe started to pull the glory roll his way by telling them that he planned the thing, because he knew the car would run backward, and because he knew the lion would stand in the middle of the track and get run over. That was Joe's story.

"But Joe didn't sum up that bunch of frightened guys. They pulled the two of



"AND WHAT DID HAPPEN?" ASKED THE FRECKLE-FACED MOTORMAN.

us off the mules and flung us into a mudhole, and took good care we didn't get out till we were too tired to flounder any more. After that they took the car on to Loopdog, and we set out to walk to the nearest railway depot. We had sense enough to know that we wouldn't be welcome in either of those burgs after the incident.

"THEY PULLED THE TWO OF US OFF THE MULES AND FLUNG US INTO THE MUD HOLE."

old caboose was running backward when it should have been running forward, told the jury that both the driver and the conductor were off the car, and he got a verdict for a thousand dollars."

"Goober" Browne stopped snoring and moved his arms. Then he stood up, surveyed the Texan with his sharp, little black eyes, and went up to hunt his motorman.

"It gets those old gazabos pretty mad when a youngster has something to tell," remarked the story-teller. "They think every car in the depot ought to be turned their way when they start to flute, and I get tired. Say, if any of you fellows are round here in an hour, wake me up, will you? I'm on the late run to-night, and I'm shy of sleep. In fact, I've had but little for the past week."

He tucked the other cushion under him, and was soon fast asleep.

"It busted the Loopdog and Cactus Camp Transit Company though. The circus owner sued the company for the loss of the lion, and he proved that the

MOVING A MOUNTAIN.

A TWO-MILLION-TON hill is being moved three miles in Cincinnati and dumped into an immense hollow which the Chicago, Cincinnati and Louisville Railroad is filling for a road-bed into Cincinnati from Chicago, says *Popular Mechanics*. To do this work quickly huge Panama canal diggers are at work eating out the hill and loading it onto pneumatic dumping trains of seven cars each.

As fast as one of these trains is loaded it hurries away to the dumping-grounds and an empty train of cars takes its place.

As soon as the freshly-dumped earth is left by the dumping trains, along comes a big spreader which saves the work of hundreds of laborers. It is pushed along by a locomotive and plows through the soft earth like a snow-plow and levels off the earth even with the tracks. When this is finished a temporary siding track is laid upon the newly finished embankment, and in this way the dumping cars keep moving close to the edge of the hill.

So far about a half million cubic yards of earth have been dumped into the bottoms.

Riding the Rail from Coast to Coast.

BY GILSON WILLETS,

Special Traveling Correspondent of "The Railroad Man's Magazine."

THESE stories, told by the boys of the Espee, form the concluding instalment of a series that has brought more than its expected quota of pleasure to the vast army of readers who look to THE RAILROAD MAN'S MAGAZINE for their literary divertisement. This is the thirteenth consecutive month of their appearance, and in all that time we have never had a dissenting voice as to their authenticity or interest.

In the final stage of his journey, Mr. Willets talked with the officers and employees of all the far-west divisions of the Espee, clean around the gigantic horseshoe that begins at Salt Lake and Ogden and swings westward to Portland and San Francisco, thence down the coast to Los Angeles, thence east to El Paso. A big territory to cover in order to get some stories, perhaps, but it was worth the trouble.

We will all say "Good-by" with a tinge of sorrow to "Riding the Rail from Coast to Coast," but—

Look out for the new series by Gilson Willets!

No. 13.—THE BOYS OF THE ESPEE.

A Cluster of First-Hand Yarns, Full of Excitement, Which Prove Why Some Men Are Heroes and Some Are Not.

BARRY, an Espee operator at Los Angeles, was playing his trick alone. He was mad clean through. Barry could not raise Beaumont, eighty miles east on the Pacific Division. This happened late one night in May, 1896.

Barry called up Ontario and Colton and other places west of Beaumont and asked each operator in turn whether business was doing with Beaumont. But each answer came back, "Nothing doing."

Had Beaumont been cut off by a quake of its own? Barry determined to find out, at any cost. Quakes were all the rage in California just then, although they had not become the vogue in the southern part of the Golden State.

"But maybe Beaumont's got hers right now," Barry said to himself, "and here's for getting news if I have to raise that place via New York."

He didn't have to go quite so far east, however, for he managed to get into communication with Beaumont via Chicago.

"A luny man is wiping us slowly but surely off the map," was the substance of the last word received via some four thousand miles of wire from the station only eight miles away, "and we are cut off from all communication west."

Details were given. Barry rushed to the despatcher and the despatcher went still higher up, and shortly a special train sped out of Los Angeles bound for the town that the luny man was threatening with extinction.

BATTING OUT EACH SWITCH-LIGHT AND EACH SAFETY-SIGNAL THAT HE PASSED ON HIS RIOTOUS WAY.

What was happening down there at Beaumont?

In the first place, a gentleman with a baseball bat in his hand might have been seen walking the ties, early that evening, eastward toward Beaumont. But then, no one *did* see him. And that's how he got the chance to begin proceedings by batting out each switch-light and each danger or safety-signal that he passed on his riotous way. One biff with the baseball bat and each such light or signal was smashed into smithereens.

This was the "luny man." Hancock was his name. He was from San Francisco, and his mind had been rent asunder by his personal experiences after the quake at the Golden Gate.

Luny is Revenged.

When he reached Beaumont, he batted out the last switch-light just by the roundhouse, and then looked about for other things to annihilate. There was the roundhouse standing before him like a monstrous, helpless enemy. Away with it! And Hancock forthwith set fire to it.

Flames rolled heavenward and ignited two loaded box cars and the adjacent telegraph-poles. Presently, these enemies of Hancock were in ashes.

The interior of the roundhouse was burned out; the box cars were left with only their metal parts, and the telegraph-wires in the vicinity were out of business. That's why Barry, the Espee operator at Los Angeles, could not raise Beaumont.

Into Beaumont, toward dawn, rolled a special train from Los Angeles, bearing a relief expedition and manacles for the wild-man, who was captured and taken back to Los Angeles.

"But what gets us," an Espee man said, when I came through there on the Golden State Limited, "is the way that Barry went up to Chicago and thence got in on us with a flank movement from the east via El Paso."

"I believe Barry would have persisted in his effort to get us, even though he had found it necessary to cable to London and thence around the globe and

come at us by the back door. That luny man cost E. H. Harriman a whole lot of money, but I guess he didn't *weep* no more than the lunatic did over the losses."

McDonald Guessed Right.

They told me the following at that same town, Beaumont. The tragedy occurred on the morning of December 12, 1908, only a few days before my own train was held up there because of an accident to a freight in the yards.

The Espee engineer who plays a part in this tale was Dave McDonald, who lived in Los Angeles and was beloved of all railroaders on his division because of his sociable ways.

A few days before the tragedy, Dave McDonald met Master Mechanic Kellogg and Boiler Foreman Reichert, and said:

"I see you have given me Number 2769. She's just out of the shops from repairs, ain't she? Well, I reckon you think you are favorin' me, but I want to remark, just the same, that I've noticed that when boiler bustin' time comes round, it's usually an engine fresh from a shop that gets the notoriety."

"Oh, nonsense!" answered Kellogg. "Boiler bustin' is a thing of the past, Dave—at least it is on the Espee."

"You're just superstitious, Dave," said Reichert, "and superstition is also a back number among Espee boys."

On the morning of December 12, Dave pulled into the yards at Beaumont on the 2769 and was ordered on a siding to let a train pass. His was a long, heavy freight, but the mastodonic 2769 didn't groan once under the weight. When the time came to go back on the main, Dave said to Conductor Guy Brockman:

"Guy, get up in the cab here with me—I want to talk with you some." Then to the head brakeman he said:

"Williams, you ride on the pilot till we get away from these yards."

Four men were now aboard the engine—the fourth being Fireman Roy Reynolds—when, without warning, there was a terrific explosion and the boiler went hurtling through the air. It alighted on an oil-car, then springing up again and falling on its head, turned over on its back and rolled a distance of 250 feet ahead of the engine.

Twenty-five feet from the engine lay the three men who had been in the cab, and the one who had been riding on the pilot. Conductor Brockman was dead; Fireman Reynolds was dead; Brakeman Williams was seriously injured, and Engineer McDonald was dying.

Jack Baile and other firemen and wipers from the roundhouse knelt over Dave, and heard him say:

"If only the *others* are all right, I go content, boys."

"Oh, I guess they are all right," said Dave's friends.

"Because you see, boys, it was I who insisted that Brockman ride in the cab and Williams on the pilot. Tell 'em good-by for me. And tell 'em I said—shoot any man dead—who says—boiler bustin' is out of date—and superstition is a back number."

Such was the end of Dave McDonald—beloved for his sociable ways.

Feeding the Hungry.

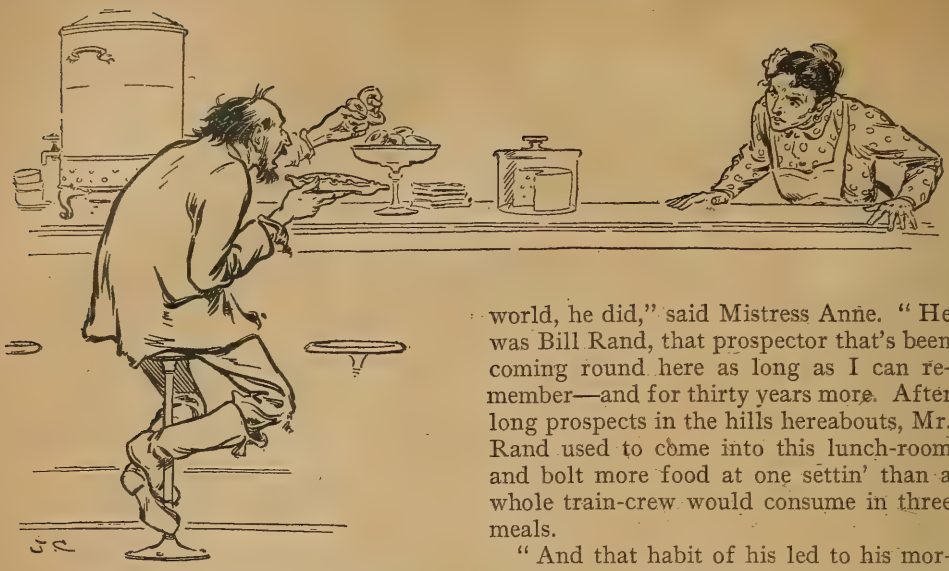
Now, let me tell of a truly remarkable stunt performed by the boys of the Espee commissary department at Los Angeles, in those terrible days immediately following the San Francisco disaster; and they did it in the name of humanity and without price.

Those Espee commissary boys down there knew that thousands of persons in San Francisco had to be fed. They planned to help feed those people, and then they went to the powers for permission to carry out their plan.

The whole Espee force at Los Angeles took off its bridle to the commissary boys, and within forty-eight hours from the time the germ idea got into the head of Baldwin, commissary chief, the biggest rolling-kitchen known to railroad history pulled out of Los Angeles bound for the Golden Gate.

"Ain't she the whole cheese and the whole bakery!" exulted Chief Baldwin, as his dream rolled northward.

That train consisted of thirty cars all turned into kitchens and bakeries. One hundred and twenty cooks and bakers were busy therein, making soups and stews and coffee and bread. From these thirty cars the commissary boys fed more than twenty-five thousand persons each day,



"HE JUST ATE HIMSELF TO DEATH."

which means that a total of some seventy-five thousand meals a day were served from that colossal mess-train.

And the Espee boy who was the front of the whole big stunt, Commissary Chief Baldwin, directed operations like a major-general, and set the pace for the boys to an end that meant shelter and raiment as well as food. When the order came from Mr. Harriman to pay off all the boys in San Francisco at once, so as to get half a million dollars into immediate circulation, Baldwin hurried to the head of the line to get his pay, in order that he might all the sooner hand over *half* of it to the relief committee.

Ate Himself to Death.

While telling of the Espee eating department, I must not forget those who are the most useful while being the most ornamental. These Espee boys are an institution in themselves, and many a good wife of an Espee boy has come from their ranks. For these boys are the lunch-counter *girls* at the stations.

The particular "counter girl" now in my mind is Mistress Anne Terry, the one with the pompadour of raven tresses in the "restauraw" at the Benson, Arizona, who told a tenderfoot about that man at Bisbee "feedin' himself to death."

"Yes, he ate himself into another world, he did," said Mistress Anne. "He was Bill Rand, that prospector that's been coming round here as long as I can remember—and for thirty years more. After long prospects in the hills hereabouts, Mr. Rand used to come into this lunch-room and bolt more food at one settin' than a whole train-crew would consume in three meals.

"And that habit of his led to his mortal end. It wasn't ten days ago when he showed up at the lunch counter at the El Paso and Southwestern station at Bisbee, where a nice Mex girl friend of mine tends counter. She tells me that Rand had been lost for days in the hills, and that he staggered into Bisbee about all in and at starvation point.

"It seems that Rand didn't wait for my Mex girl friend to wait on him, but that he rushed up and seized a pie, some crullers, a sandwich, and a pot of beans. He bolted all of those things at once—and fell off the stool, dead. He just ate himself to death."

Getting a House Moved.

The Espee has its own uniformed special police. At midnight, November 23, 1908, a policeman started out on a case in plain clothes. As such, he is referred to as "secret service." But when he shows up in uniform, as he did on that November night at Redding, California, then he is spoken of as "a policeman."

The man I write about is Jim Horgan. His is on the Shasta Division, with two hundred and seventy miles of mountain track to police, going wherever he is most needed, but having his headquarters at Dunsmuir. The boss of the division is Superintendent Whelan, who issued the orders that obliged Jim Horgan to get into action at midnight.

Horgan was ordered to take a gang of

thirty section-men and proceed to Redding, the first important station south of Dunsmuir, and there move a house bodily from certain Espee property into the street—and get the whole job done before daylight.

Accordingly, at three in the morning, a gang of thirty huskies, under the leadership of Horgan, dropped from a train at Redding Station and made their way across the track to the Espee lot. They were armed with axes, crowbars, picks, and shovels; and Horgan was armed with a club, a badge, and a whole lot of authority.

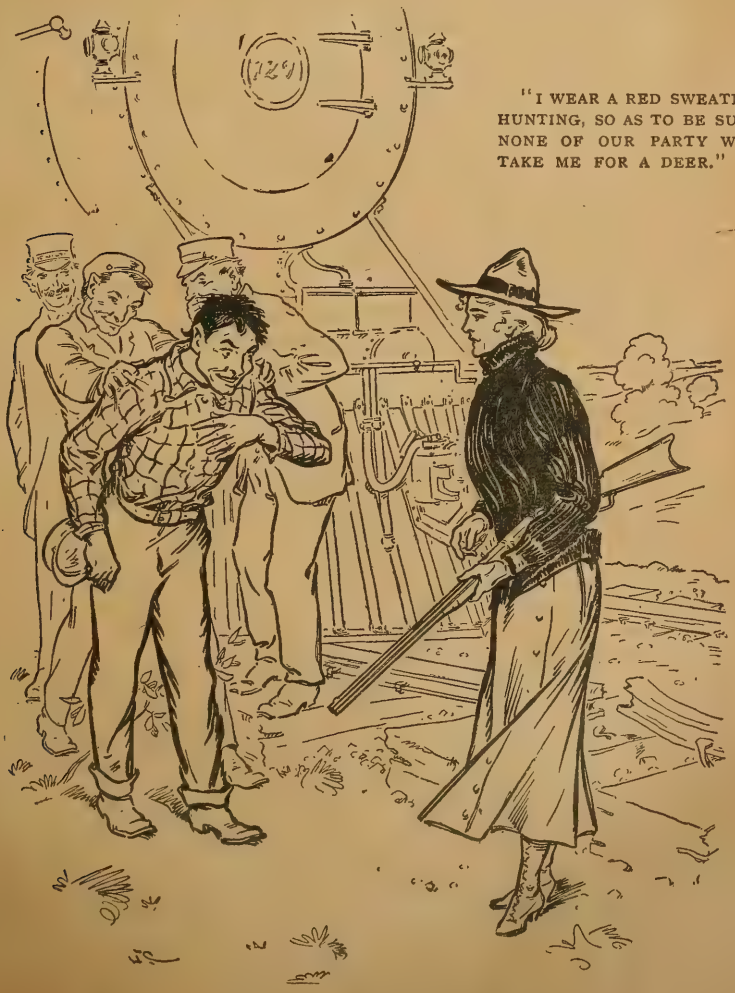
"Sh!" Horgan warned his men. "The boy, Tom Gillman, is asleep within. Don't wake him up. Move the house noiselessly!"

And with that the section-men took thirty whacks at that house, making a noise that would wake the dead. Shovels and picks cleared away the dirt from the foundation, axes cut away the supporting beams, and crowbars were the levers that got action into the dwelling at the rate of about a foot every half minute.

Meantime came wails from the interior. "What you doin' to this house? Let me out, I say." It was Tom Gillman, who had been placed on guard in the house by its owner.

Horgan Stands Pat.

By five o'clock the house stood in the street. "Now build a fence clean round



"I WEAR A RED SWEATER WHEN HUNTING, SO AS TO BE SURE THAT NONE OF OUR PARTY WILL MISTAKE ME FOR A DEER."

this lot," ordered Horgan. And the section-men put up a fence so quickly that by six o'clock Horgan opened the front door of the house, called out Tom Gillman, and said to him:

"Now, Tom, you go tell Frank Bucher what we've done. And tell him I say you are a good boy, not shirkin' your duty, but guarding property as well as you know how." Frank Bucher was the owner. The land in question was in litigation.

By this time half a dozen uniformed Espee policemen had come down from Dunsmuir, and these Horgan now stationed at intervals along the fence, giving orders at the same time that the place was to be thus policed till further notice.

At seven o'clock Mr. Bucher was on the spot warring good and hard with Horgan and his police, when Street Superintendent Adams arrived.

"Take your house off my street," ordered Adams, addressing Mr. Bucher.

"*I* didn't put the house in the street," Bucher replied. "Tell this railroad man, this Horgan, who put the house where it is, to put it back where he found it."

"THE ARMS OF THE LAW LET FLY A FUSILLADE OF SHOTS IN HIS DIRECTION."

But just then up came Fire Chief Poole. "I don't care whose house this is, or who put it where it is," he said. "It's within the fire limits and it's impedin' traffic, and it's got to go."

"Let it go!" cried Policeman Horgan gleefully. "I don't care where it goes, so long as it goes away from here. I reckon me and my men have given this town a white elephant, all right. But orders is orders, and Superintendent Whe-

lan can't say no grass grew under my feet."

Made of the Real Stuff.

One of the predecessors of Superintendent Whelan mentioned in the foregoing story was J. J. Lindberg, who for some years was division superintendent of that same Shasta Division. He was one of the best-known railroad men on the Pacific coast, and a personal friend of Julius Kruttschnitt, vice-president of the Espee.

Mr. Lindberg worked so hard, so fast, and so conscientiously at the task of making his division the best ever, that he put himself in a premature grave.

During the winter of 1906-1907 snow fell on the Shasta Division as it had not fallen for years. One storm after another piled the snow up on the right of way, and all hands worked day and night to keep the track open. In January, when things were at their worst on that mountain division, Superintendent Lindberg announced that he would go out on the line himself and direct the work.

For weeks Mr. Lindberg was seen along the line, giving directions and lending a hand wherever needed, thus encouraging the men by his own example of endurance and persistence. When he finished clearing one section, another would become blocked with still another heavy fall of snow. It was hopeless work.

When Vice-President Kruttschnitt went through there, Mr. Lindberg said to him:

"I never knew before that snow was like a flea. Just when I think I've got it lashed to the mast, it eludes me and falls on the track up ahead or down below."

"You better take a rest," said Mr. Kruttschnitt, "for you look all in."

"Not me," replied Mr. Lindberg. "I mean to keep this division clear of snow if I have to shovel it off myself."

The next day the snow fighters found their division superintendent lying helpless on the battle-ground. He had fallen a prey to a paralytic stroke brought on from exposure. They took him to his home in Berkeley, California, and there, just before he died (January, 1908), he said to some of the officials of the Espee who called on him:

"Thank God, I was taken with my boots on! It isn't the approach of the reaper that hurts. It's this confounded inactivity while waiting the summons that gets me. A railroad man is a soldier, and the one who perishes on the field of battle is to be envied."

"Smoke Up's" Gallantry.

The section that "Smoke Up" Moores bossed was some south of Bakersfield, California. One day in November, 1908, "Smoke Up" might have been seen running at breakneck speed down the track toward a train that was standing still. The train was standing at a place on his section where trains are supposed to keep moving, and he wanted to know why.

Before I proceed, let me state that "Smoke-Up" Moores is renowned along his section for gallantry, emphatic and persistent, where ladies are concerned.

When "Smoke Up" reached the head of the train, he confronted some half dozen young men and women unknown to him and a train-crew whom he knew as brothers.

Even the ladies he ignored in the first minute of his arrival, while sweeping the track with the trained eye of the born section-man.

"A broken rail, eh? And a rail twisted out of shape at that, eh? Well, however am I to congratulate you"—addressing the train-crew—"on this narrow and miraculous escape from sure death?"

"We've got yonder gent to thank," said the engineer. "I was poundin' along as usual, when of a sudden I beholds this gent standin' in the middle of the track wavin' that red sweater which you now see adornin' the person of the lady yonder."

"Yes, he's Roy Gilchrist," put in the train conductor. "He's a newspaper man of Bakersfield. He, with his party here, had been hunting. He spies this broken rail, and at once he fairly tears that red sweater from the lady's back and stops the train in the nick of time."

Roy Gilchrist here stepped forward and introduced all hands to the lady who wore the garment that had been the means of saving life and property.

"I'm very glad I happened to be wearing this sweater," said the fair lady sweetly, speaking in particular to "Smoke Up" Moores. "I wear a red sweater when

hunting, so as to make sure that none of our party will mistake me for a deer and shoot."

And now, here was the main chance for the gallant section-boss. "Mistake you, lady, for a dear? Why, miss, whether in red sweater or blue sweater or white sweater, I should at all times not make any mistake in taking you for a dear."

"Here! Here! Smoke up, old 'Smoke Up!'" cried the crew. "Light your pipe and forget it."

An Indian Did It.

There is Harrow, of the limited, east out of Los Angeles, who in November of 1908 ran down and captured a desperate bandit—by proxy.

The limited, just east of Beaumont and near Banning, was running fifty miles an hour, and, considering the speed, it seemed impossible that a human being could jump from the train and live. Yet, while Harrow's train was racing along at nearly a mile a minute, two limbs of the law from Kansas and, I think, also Constable De Crevecouer of San Berdoo, shouted to Conductor Harrow, saying:

"The prisoner has escaped — jumped from this flying rocket!"

Harrow promptly backed the train up some three-quarters of a mile to the scene of the escape.

The arms of the law jumped from the train while it was still in motion and espied their prisoner in the act of struggling to his feet. That bold train-jumper had been hurled eighty feet against a rock embankment. And now, as he started on a run, the arms of the law let fly a fusillade in his direction—but did not hit him.

Northward the fugitive fled, with the officers after him, and to Conductor Harrow, who was watching, it seemed a dead sure thing that he would make a clean getaway.

"I'll get him, though," announced Harrow. And he rushed through his train till he came to a half-breed Indian named Matthews, famous in that region as a runner. "Get after that runaway, Henry," said Harrow to the Indian, "and see that I don't have to hold this train longer than—"

But before Harrow could complete his sentence the Indian was on the trail.

He caught his man, too, and brought him back to the train.

"I've had to hold the train only forty-five minutes for the whole job," said Harrow. "It sure does take a train conductor to capture fleeting convicts. I'm going to suggest to headquarters that I be allowed to carry that Indian on all my trips, because criminals that are being taken from California back East are almost sure to make a break for liberty. That Indian would earn his keep ten times over by saving the road expensive train delays caused by officers that can't shoot or run."

Station-Agent Jeroloman, at Dunsmuir, arrived at his station early one morning in August, 1908, in time for the coming of the south-bound from Portland. The train pulled out, leaving a young woman weeping and in dire distress.

An Inexpensive Honeymoon.

"I've lost my hand-bag," she wailed, "and my jewels—and our money—and my husband."

"Your husband!" ejaculated Jeroloman.

"Yes, sir. He jumped out of the car-window after my hand-bag. It contained my diamonds and our cash."

"Where was that jump?"

"On what you call your Siskiyou grade."

"That means train was going up—and slowly. I reckon your husband, lady, weren't hurt much."

An hour later, sure enough, the husband arrived at Dunsmuir, footsore and weary, after walking the ties for miles.

"I found everything all right," he announced, displaying a bag and a lot of jeweled baubles and a roll that looked like a bundle of Smyrna rugs.

"You see," he explained, "we're returning from our honeymoon, and my wife dropped this bag out of the window of the Pullman some time before daylight. And I dressed and jumped out of the window—and here I am."

"And do you mean to say," expostulated the agent, "that you are actually returning from a honeymoon with a roll like that? Well, you sure do deserve to lose it."

Roadmaster Samuels and a number of

section-hands were inspecting track on San Gorgonio Pass, one of the steepest grades on the Los Angeles-Tucson Division of the Espee, where trains rush down toward the desert at speed terrific. They came to a trestle. Samuels said:

"I smell smoke. Don't you, boys?"

On examination they found a pile of brush under the trestle burning and threatening to set fire to the structure.

Roadmaster Samuels and his men were in the nick of time, and by their watchfulness the east-bound limited that morning was saved from terrible disaster.

"And what's this?" said Samuels, indicating some writing in the sand under the trestle. The writing stated:

"If we don't get this bridge, we'll get the second or third one."

"A threat!" exclaimed Samuels, and he sped away and notified the authorities.

The result was that some hours later Constable De Crevecouer came into San Berdoo with two youthful prisoners.

"These prisoners," he said, "are Charlie Reatz and Abe Parker, who were thrown off the Sunset Express by a brakeman. Perhaps they thought to get square with the railroad men for serving them like that when they were attempting to beat their way. Perhaps they tried to burn that trestle, and perhaps they wrote that letter on the sands. But the Espee trains are safe from these fellows now." And he locked his prisoners in the calaboose.

"HE JUMPED OUT OF THE CAR-WINDOW AFTER MY HAND-BAG."

Two days after the foregoing events, Brakeman Ratigan was performing his duties on a very long and heavy east-bound freight. As they rolled down the San Gorgonio Pass, Ratigan said to Sam Hayes, a fellow brakeman:

"They couldn't find enough evidence that those two kids tried to set fire to the trestle the other day, so they held them on the gauzy charge of vagrancy."

THE TRUNK WAS TIED UP WITH YARDS AND YARDS OF CORD.

"Well, so long as they hold them on any old charge," replied Hayes, "I reckon things will run smoother and more comfortable on this grade."

He had hardly spoken when the train struck an obstruction. Half the cars were jammed with terrific force, and nine oil-cars lay ditched. Ratigan, unhurt, saw his friend Hayes flung to instant death.

The shock affected Ratigan seriously, and when he got back to Los Angeles the next day he laid off.

"Seein' Hayes go like that has locoed me," said Ratigan. He was suffering from a high fever, and wasn't just sure of what he was doing or saying. That night he was wandering round the streets, acting in an erratic manner. He stepped into a drug-store and asked the proprietor to telephone for a hack, saying that he couldn't walk another step.

That druggist had been held up by foot-pads only a few nights before, and he was suspicious of the stranger who acted so queerly. So the druggist promptly called a policeman and made him arrest Ratigan as a "suspected highwayman."

The patrolman took Ratigan to the police station, where a surgeon examined him. His temperature was 102, and his pulse 120.

"I ain't a highwayman no more'n you are," said Ratigan in a weak voice.

"That's dead right," said the police surgeon. "You're a sick man, you are. What's your trade?"

"My trade," said Ratigan, "is that of watchin' brakemen get killed, and then tryin' to figger up how it is that the police hereabouts hold kid train-wreckers on the mere charge of vagrancy, while they hold innocent brakemen on the charge of being highwaymen."

To the police it was evident that Ratigan had reached the raving stage in his fever. "But say, honest, captain," Ratigan went on, "what beats me is how did those kids do the trick, they being in jail at the time as vagrants?"

Such was the tragedy growing out of the fact that a Sunset Express brakeman threw two young men off his train.

Jack Middaugh's Death.

When a fireman in the very act of shoveling coal into his fire-box is mortally hurt through a hazard that has nothing at all to do with the railroad, few will believe it. Such, in fact, was the ex-

perience of Fireman Jack Middaugh of the Espee's Nevada Division.

Middaugh's division was that one that begins at Reno, with the shops and yards hard by in Sparks. It is in Sparks that the boss of the division, Superintendent Manson, has his headquarters; and it is in Sparks that the "boys" are proud of their Southern Pacific Library Association, where they have a building that is equipped with bath-tubs as well as books and magazines.

On a December evening in 1908, at six o'clock, Fireman Middaugh and Engineer Christensen started from Reno, where they had been doing switching work all day, to take their switch-engine to the roundhouse at Sparks. On the way Middaugh said:

"Soon's we get there, Christensen, I'm going to get one of those bang-up baths for which we pay fifty cents a month."

Like a stone, Fireman Middaugh dropped to the floor of the cab. He was stooping over in front of his fire-box, when he collapsed.

He lay on the floor of the cab, bleeding.

Christensen was terribly frightened. He put on all speed for Sparks. When he arrived there he was reminded that Reno, not Sparks, was the place for his wounded comrade, because the Nurses' Hospital was located in Reno.

So back to Reno Christensen hustled his engine, and poor Middaugh was carried off to the hospital.

Rubbing It In.

Until this time Engineer Christensen had spoken scarcely a word. But now he said:

"Whatever has happened to Middaugh, anyway? We didn't hit nothing. We weren't wrecked a little bit. There was no collision nor ditching nor derailing nor running off track from a broken rail nor boiler explosion nor nothing at all. So what I want to know is, why did Middaugh cave in and go to bleeding like he did?"

"He's shot," said one of the boys. "The bullet hit him in the shoulder and ranged down through his left lung. The wound is mortal."

"Shot!" cried Christensen. "Show me the man that did the shooting, and I'll— As if we hadn't enough dangers as it is without adding to them."

"It weren't a man; it were a boy with a rifle. Careless handling. You were just passing State Park when the shot took Middaugh. Some boys were playing with firearms, and in the fortunes of war, Middaugh was struck down."

"Well, all I've got to opine is," said Christensen, "that, on top of all the other things we risk, this is certainly rubbing it in."

Shingle's Hypnotic Power.

Baggageman Shingle, at Berkeley, California, is a firm believer in the power of hypnotism, or auto-suggestion, and nothing can shake his faith therein.

One day a young woman, a nurse, alighted at Shingle's station. Shingle took the lady's trunk-check and found her trunk for her. The trunk was tied up with yards and yards of cord.

"You've got enough cord on that trunk," said Shingle innocently enough, "to hang yourself with."

Only a few days after that a doctor from the Nurses' Training-School came down to the station, and said to Shingle:

"Did you hear that we've had a suicide at the training-school? One of the nurses hung herself with a trunk cord."

"Was she light complexioned?" asked Shingle excitedly, "with plenty of gold fillin' tucked away in her front teeth and a whole lot of molars showin' when she laughed?"

"Yes, that's the one. Her name was Ethel Buttimer."

"It was, was it? Well, doc, say, do you believe in this here hypnotism at long-distance range, this here auto-suggestion?"

"Yes! Why?"

"Oh, nothing at all — except to say, doc, that this here auto-suggestion business is downright dangerous. I never thought an ordinary baggage-smash could have that much influence with a female. Well, if that don't beat all."

And he told the doctor of the remark he made to the young nurse about her trunk cord—and Shingle has been telling that story at least once a day ever since.

(The end.)

NUTLEY, THE STICKLER.

BY ROBERT FULKERSON HOFFMAN.

A Plausible But Defective Theory Fares Badly in the Final Proving.

"HE'S a stickler for points!

"He will put in twenty-eight straight minutes saying nothing in particular and whetting the edge of his wrangle knife on the bootleg of his bullheadedness—eh?

"Yes, he will, and then hop in and grab the last two minutes of a half-hour's friendly chat and skin them alive, while he splits an imaginary hair on an imaginary mole on the face of somebody else's opinion. But, I like him.

"Oh, you don't have to laugh!" announced Startzel, in conclusion, as a stifled and uncertain sound came from the direction of the big leather couch in the far corner. "That was no joke that I shoved off onto your mental platform. That is information, properly sorted, tied and routed."

He shook himself out of the depths and tatters of a once luxuriously upholstered lounging chair by the window and drew the shade against the city lights that were momentarily springing up more numerously in the early darkness. He closed and set aside the dummy distributing case, into the diminutive pigeonholes of which, during most of the afternoon he had silently and patiently thrown, one by one, the name cards of a new and complicated route.

In this first hour of the evening he had been sitting almost under the frowning overhang of a grand and gloomy marble mantel that mutely told of the neighborhood's departed social greatness, while he, quite audibly, told his roommate what he thought of the merits of some recently designed safety appliances for mail-cars.

Finally, he had busied himself at leisurely gathering from his possessions what was needed for use on his night-mail run and started toward the door.

"No, don't strain yourself, Wally," he counseled complacently, while ambling across the room.

"I know 'Dismal' Nutley and, if—"

Startzel broke off abruptly as he reached the door of the Kansas City boarding-house room which he shared with Wally, of the Persimmon Route's car department. He was, first of all, a methodical man and, having fixed upon an idea or practise, Startzel followed it almost automatically.

This simple fact was destined to tip the wavering balance between life and quick destruction for him, before the coming midnight hour should strike, but just now, he had merely discovered that his crumpled gray hat was on his head wrong end to.

He set his little, battered gripsack carefully on the floor while he made the desired reversal. Then, picking up the gripsack and standing with his free hand upon the door-knob, he completed his interrupted farewell:

"If you can get that great truth rightly into the midst of your understanding, Wally, it will save you having a whole bunch of jolts while you work this business out with Nutley.

"Nutley's a good inspector and I like him, in a way. But, he's a stickler for points, and he'll give you the fantods if you don't watch out. I had 'em when he first came on our route.

"You keep right on voting for the hand-rails, will you?

"G'by!"

Startzel may have "had 'em," as a result of his wearing experience with the

government's inspector in charge of safety devices, but he appeared none the worse for it as he swung his broad shoulders along under the street-lamps and, reaching the brow of the high bluff, stood looking down upon the wide cluster of gay-seeming, colored, railroad-yard lights far below him in the midst of the city's yellow night-glow.

There was in Startzel a certain fineness of sentiment that bade him always to allow himself this mute farewell of the city, before entering upon the perils of a night-mail run through Missouri—the same lovable quality of mind that appears, to the chance observer, only in little surface gleams in the swift-moving life of almost every man who has the mental and physical strength to survive in the railway mail service.

So, Startzel stood looking down into the night, dreaming his dream, whatever it may have been, only for a moment, before stepping aboard a passing street-car that was heading for the giddy descent to the yards.

In the following customary minute of hoping for the best and fearing the worst, he passed, with others aboard the car, safely down the foolhardy grade and, sweeping around within the wide curve of the covered station-shed, was presently swallowed up among the trim lines of outgoing passenger and mail trains, in the complex, orderly confusion of the Union Station.

Meanwhile, Wally, wise in the annals of car lore of the Persimmon Route, had yawned and turned with increasing comfort, upon the broad and ancient leather-covered couch, where Startzel had left him. He reached out lazily and aimlessly, once or twice, before he succeeded in fixing his burned-out pipe satisfactorily upon the chair at his side. He closed his eyes, determined upon a nap that should be free of all care and cars.

Just when he had reached the borderland wherein carking care rides prisoner in the distant roads to peace, Startzel's lurid sketch of 'Dismal' Nutley grew before Wally's drowsing mental eye until, in a clearing instant, he saw Nutley in the graphic pantomime of Startzel's making.

"TIP YOUR CAR!" HE SUDDENLY BROKE IN.

That ended the nap but half begun. He snorted, laughed helplessly for a moment, and was wide-awake.

"Guess I'm feeling too well to sleep," he confided smilingly to his pipe as he sat up and refilled it. "We'll take another look at the drawings."

Shortly he was seated, with blue-prints spread upon the table under the light of one lonely gas-jet burning above the ghostly mantel. There came a rap at the door and he turned the prints face downward upon the table before bidding the caller enter.

"Oh! You, Nutley?" he said in surprise, as the door swung inward to admit the inspector. "Thought it was one of the boys along the hall. I should have opened for you. Have a seat?"

"No—no, I think not; thank you. Hardly have the time.

"I was intending to go down to the train with Startzel. I wanted some further expression from him on the new safety hangers. He has strong opinions and a good deal of insight.

"Has he gone?"

"He has," replied Wally, briefly covering both question and comment.

"You should have been here a few minutes earlier," he added, with difficulty preventing his smile of genuine welcome from degenerating into unrestrained laughter.

"Startzel goes to the train earlier on Monday night, because of heavier assortment at the start.

"Going on the run with him to-night? The car is all fitted up for trial, you know."

"Yes, I intended to, and must be going," replied Nutley.

"Plenty of time," said Wally, consulting his watch. "Sit down and have another look at the drawings, while you are here.

"There's a point or two—"

Nutley sat down, and, in a moment, Wally was deep in the discussion of the respective merits of hand-rails bracketed the full length of the car, at the base of the clearstory transoms, and of short, pendant iron rods, hung vertically, at intervals, from free swivel joints fastened in the top of the hood, so that men might leap from their working positions and hang to the hand-rails or the rods, free of the floor and its encumbrances, when extreme need arose.

The plain question was this:

In the brief time that is given a mail clerk after he knows trouble is close at hand, which could he reach and grasp most surely—which most quickly—the long, fixed hand-rails above and to the sides, or the dangling rods which were free to follow any angle of the car's careening, and almost within his reach directly over the central aisle?

Each device had its claim to excellence, but only one could be had. Somebody had fixed upon a cost limit and somebody else had agreed.

One must be chosen.

Wally was for the hand-rails, and he marshaled his arguments skilfully while Nutley listened—and "whetted the edge of his wrangle knife."

The swiveled rod was a pet idea of Nutley's adoption. It seemed to hold him with a sort of fascination like that which a clawing kitten finds in the pursuit of an apple hung upon a string.

"Tip your car! Tip your car!" he suddenly broke in upon Wally's discourse.

"Of what use are the fixed hand-rails when you tip your car in a wreck?

"Where would a man's feet be?

"Where would his head be?

"How would he get over there in time, anyway?

"But here! Look at the swiveled rods! Central over the car aisle! Always within reach, but never in the way!

"Always pointing downward, no matter at what angle the car may be canted! Always reaching down a helping hand to the man below!

"All he needs to do is reach up and leap for it. It is a godsend to the service, Wally, and I think you should cast your vote with your people for its use upon the Persimmon.

"As matters stand, their report to the government will weigh against mine. We should not show up in a deadlock of that kind.

"We will try this car out to-night, and further, it is true; but, lacking an actual proof, it will still remain a matter of opinion.

"If we could have a proof of the actual result in practise, I have no doubt what it would be."

Nutley had grown fervid, enthusiastic, even regretful, as he proceeded, not quite realizing at the moment what the desired proof might cost; that it could be had in nothing short of splintering and crushing wreck.

Before the fixed leaving-time he had arrived at the Union Station, inspected the safety hangers, and was seated out of the way in Startzel's mail-car.

Startzel had grasped the last sack of Monday's heavy mail, unlocked it, and was shaking out its gorge of mail upon the broad wooden tray before him. Instinctively and from long habit, he and the others within the car were listening, subconsciously, while they worked between trays and cases, to the sharp clang of hammers upon the wheels of the train.

The wheel-tonkers made their way slowly from the rear, testing and inspecting at either side, and the brief, bell-like clanging came close under the mail-car and passed on toward the front of it.

At the forward wheel, on Startzel's side, the hammer rang dully upon the flange. Startzel instantly straightened from his distributing and, with his hands filled with mail, stood listening intently.

The man below searched the flange with his torch and struck again, harder. The wheel rang a fuller note, not quite true and clear; but yet not the dead, flat note that would tell uncompromisingly of a bad fracture.

Once more the man searched and struck. Getting a fairly vibrant sound, he called to his mate, who stood listening on the opposite side of the car:

"What do you say to that, Joe?"

"Stopped on a clot of sand, maybe," came the answer. "Don't see anything, do you?"

"No."

"That's good. She's all right. Get a move on you! We'll remember her when she comes back on Wednesday."

They passed on toward the front, and a little later Hays, on the big engine of the mail, was whirling it out through the night, over the red clay banks and down among the swelling buttes looming big and spectral upon the fringe of the headlight's wavering bar of light.

Nutley, meanwhile, sat watching the furious battle with the deluge of mail that fell in upon Startzel and his mates at every big station, and rained upon them in an intermittent stream from the mail cranes which gave up their shadowy burdens along the more open places.

He noted with some surprise the extent of the circles in which the rod swung irregularly while the car dipped and careened.

Instinctively his eyes went, in turn, to the stanch hand-rails stretching away along the lower edges of the clearstory.

While he sat thus debating the matter in his mind, Hays, on the engine, blew the long signals for the approach to the bridge over Big Babbler River, and the train swung sharply into the long curve that ends just short of the bridge.

Down under the forward end of the car there came a sharp spang of metal, broken at high tension. The sound was lost in the roll and rumble of the flying train and in the light grinding of the brakes with which Hays was steadying her upon the curve.

The flange that had rung false in Kansas City, and then again and again had seemed to ring safely true, had broken free from the tread of the wheel; and for a hazardous moment or two it was swept along with the axle rolling and clashing beside the wheel. Then it caught, and was crushed and broken into irregular segments; and Nutley received his proof.

A hurtling, tumbling piece of the steel fell and hooked upon the rail in front of the rolling, rimless tread. The wheel leaped instantly, and the truck followed. There came a grinding and splintering crash from below, and then the scene that every mail clerk pictures only in his darker hours was enacted to the full.

At the first jolt and crash from the truck Startzel leaped upward, scattering his handfuls of mail wide upon the car floor. His alert, methodical mind had instantly connected and put a right value upon four things:

The dull stroke of the hammer at Kansas City, the whistle signal for Big Babbler curve, the crash from below, and the hand-rails above him.

With instantaneous reasoning, he backed his belief with his life and chose the hand-rail. His fellow workers hesitated only for a glance, then followed Startzel's lead.

Not a word was spoken. Not a cry was uttered. They were veterans, facing

the death that they had been wordlessly trained to meet.

The splintered car floor gave upward before the thrust of broken car-sills that broke above the battering of the leaping truck. The truck, up-ended, reared and plunged in the midst of the flying débris.

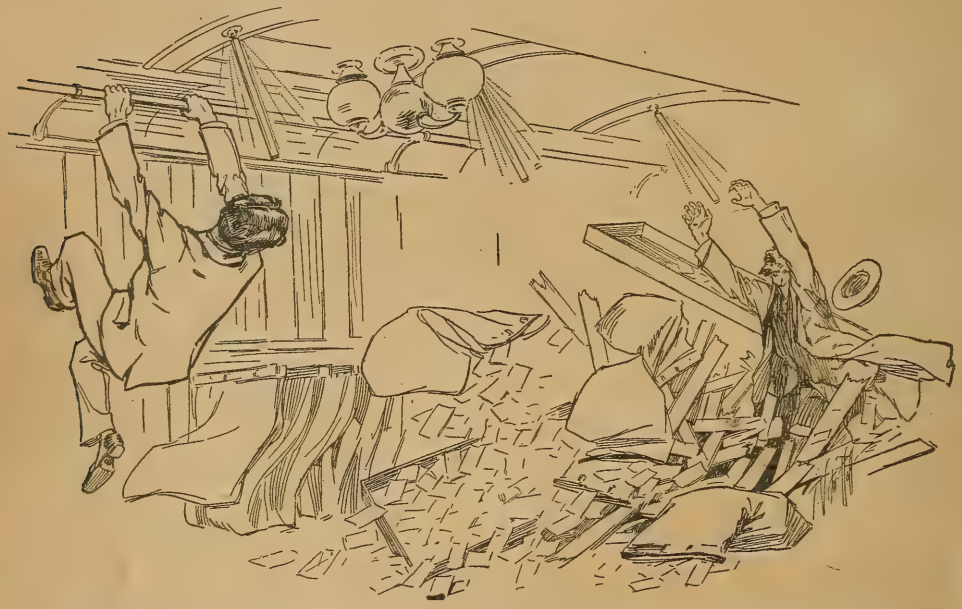
Heavy laden wooden trays, filled with loose mail, shot forward upon their slender iron racks, shearing and crushing all that stood between.

Towering piles of loaded mail-sacks fell crushingly over all, and many-holed

They found Nutley there when the ruck of it was being straightened out of the ditch. Very small and white he looked, pinned, spitted through and through between the interlocked and jagged ends of the broken car-sills, with his hands pinioned together, high above his head, and the safety-rod swaying and dangling mockingly to one side, just a little higher than his stiffened finger-tips.

Poor Nutley! It was the proof!

"That was a terrible proof," said Wally sadly, when Startzel was again sit-



STARTZEL SAW NUTLEY RISE AND SPRING, WILDLY CLUTCHING AT THE SWAYING ROD.

cases were torn from their wall fastenings and hurled their contents upon the ruin.

All this in the draft of a breath; and when the commotion had made itself felt in the engine and the brakes bore down harder upon the wheels, the vagrant truck was making its final, writhing, upward turn under the plowing and leaning car.

The gaslights burned steadily on through it all; and Startzel, hanging by his hands from the hand-rail, with his feet drawn safely above the shearing and crushing mass below, saw Nutley rise and spring, wildly clutching, at the swaying rod above his head—saw it swing abruptly beyond his straining reach and saw him fall back into the massive wreck of things heaving and splintering below him.

ting in the frayed lounging chair by the window and Wally was idling the evening hour upon the leather-covered couch in the far corner.

"Yes, poor Nutley!" said Startzel.

"I liked Nutley. He was a good inspector, even if he was a st—"

It caught in Startzel's throat — just there—and he finished by drawing the shade against the city lights, which were again showing numerously in the darkness, and by lighting the lone gas-jet above the once grand marble mantel.

"Yes," said Wally very gravely, "poor Nutley!"

Then he reached aimlessly once or twice before he recovered his neglected pipe from the chair that stood close beside him.

Told in the Smoker.

THE American drummer! What would the smoker be without him? His cheery face, his glad hand, his never-ending string of stories—they are as much a part of our great railway systems as the rolling-stock. He travels over miles of country spreading the latest wares of commerce; the Pullman is his home; his friends are legion, and live in every city, town, and hamlet.

Here is a bunch of the latest drummer yarns that we have collected. If any drummer who reads them can send us in any that are as good we will gladly print them. We will publish "Told in the Smoker" from time to time—whenever we have a sufficient number of good stories. If the Knights of the Grip come to our aid it should appear regularly.

The Most Humorous of the Latest Yarns of that Cheerful Traveler and Indefatigable Produce Pusher—the American Drummer.

THE round, merry face of J. L. Fisher pushed into the smoking-compartment as the train pulled out from Rochester, going east, and found what it was looking for—good company. The smoker was already crowded, and the round, sleek figure of J. L. F. seemed to be pushing all the other occupants against the walls; but, somehow, a seat was found for him. There is always a seat for him anywhere, for he has a story to tell.

By occupation, J. L. F. takes out a line of samples of what the Chicago milliners think will go best in the way of trimmed and untrimmed hats, and sells them up and down the land; but by preference, he seeks out his brothers of the grip and regales them with the latest twist he has been able to see in something that just happened to him.

On this occasion he fell in with a good crowd, coming home off the road for the holidays and making the last jump into New York. Most of them had swung around the continent, hitting big towns, sleeping twenty-nine out of thirty nights on the move.

"Say, I got such a cold I can hardly talk," Fisher began, before he dropped his satchel; "but hear this from Buffalo. You know the way the street fakers get the gawks piling around them down by the Union Station. One of them had a bunch of longshoremen from the lake-front standing shivering in a zero zephyr last night, while he told them all about

Green's medicated cough-drops. He said it could wrestle a cold and get both shoulders to the mat in one throw, but his own voice was worse than mine is now. He was just whispering and tearing his throat all to pieces to reach the fringe of the crowd.

"It was his voice that got me. You know, I used to do a little of that myself, and I watched to see his game.

Cured His Own Throat.

"'Makes no difference if you're so hoarse you can't hear yourself whisper,' he croaked, like a man with a harelip trying to shout. 'Just slip one down easy, and it'll clear your throat in ten seconds. It's the greatest remedy ever discovered for the cause of suffering—'

"He couldn't get any farther, and began to cough as if he were going to lose a lung.

"'Say,' some one called out, 'why don't you try it yourself?'

"'Thanks, friend,' he croaked back; 'that's a good idea.'

"Then, as the crowd stopped gaping and shivering, he took one of the cough-drops, looked relieved, and began to talk in his natural voice.

"'Funny, but here I am selling these priceless cough-drops at a quarter a bottle, and I haven't got enough sense to try one myself.'

"They all bit. Anything goes on a crowd. But I'm not the fellow to laugh at them. I thought I had something smooth myself once, but it turned out raw. There is a joke in what I just said—you may catch it by and by. I went broke in Scranton, and got on the tail end of a wagon with a gross of Little Beauty safety razors.

"The streets were full of miners, and all you had to do was to show them something and they had their dollars ready before they knew if they wanted it.

"'Come on up!' I called out. 'I'll shave any man in the crowd, and I'll give a dollar to every one I cut!'

"They came up, trusting as calves, and before I got through with the first one they were packed around so thick that the driver didn't have to worry about his horse. So he came back and wanted to take a hand.

"He said he'd been in the army, and knew all about shaving. I tried to keep him off, but he'd put up the money for the razors, and was feeling toplofty.

"Before he broke in I had shaved ten slick and clean, and they were pushing in closer, yammering to give up a dollar per.

"I was figuring on what I could do with the hundred dollars I could almost see in my hand, but I wanted to wait until some fellow insisted on buying right away, and then it would be a regular stampede. But all the time there was a little miner down in front, trying to get me to shave a chin covered thick with steel wires.

"I knew the Little Beauty couldn't stand up against it, and every time he tried to catch my eye I was busy picking out fellows with easy whiskers.

"Finally, I had to move to the other end of the tailpiece to get away from him without attracting notice, and while I was giving a practical demonstration over there he got hold of my driver and financial backer, and first thing I knew they were at it.

"It was all off right then. His whiskers wouldn't cut, and couldn't be nicked off. They had to be pulled out by the roots, and my partner did that all right. Everywhere he went on that doormat he left blood.

"My demonstration wouldn't take at all. They were all watching that bleeding face. It was no use. I just jumped off the tailpiece and left the razors to the driver. They were his, anyway, and it was his fault.

"Wait till I get my drinking-cup. I want to wet my throat."

Measuring the Sheet.

"Here's one," said Bob Lahm, who specializes on suits and overcoats. "What is the matter with this one by the ice-water? You're getting particular, having your own drinking-cup."

"Thought I was in Kansas, or wherever it is where they have the law against drinking-cups. Take your own little cup when you go out there. None furnished anywhere, and no one will lend you his unless you're a pretty girl.

"All the wise boys have little folding-

cups handy. No use for them, as far as their own thirst is concerned, but whenever a pretty girl walks to the end of the car they strain their ears to hear her say, 'Oh, dear, I forgot my cup!' Then, up they jump, each with his little cup in hand, and trample on each other in the aisle to get there first. You know how it is in day-coaches—how the old travelers always go for the middle of the car, where the riding is easiest. Now you find them all over the trucks near the water-coolers.

"They've got another law somewheres that sheets must be nine feet long. Some of the trains that pass through the State had to have new sets of linen for the sleepers. The first night they outfitted the Kitty Flier out of St. Louis, the porter in my car was measuring to see if they hadn't forgot an inch or two. He was holding up a sheet by one end, with the other end trailing for a couple of feet, when all at once it began to rise until the lower hem was just touching the floor.

"I could see his fingers at the top, but I knew he was not standing on the seat. The sheet was between us, though, and I could not make out how he was able to reach so high.

"'Who's levitating you?' I asked.

"'Wha's dat?'

"'How can you reach so high?'

"'Ah's standin' on mah toes.'"

Fisher stopped to take the drink Lahm offered him, but he went right on as soon as he had gulped it down.

A Bath and a Brush.

"Too clean for me," he said. "I've been down in the Mississippi Valley for a month, and I'm not used to this bleached water. I like mine brunette. You know how dirty the water is down that way. The worst I've seen was in Nashville. They're proud of it there, you know. They say you need the grit in your crop, if you go so far as to drink it, but washing is where it shines you. Makes you clean without soap. Just rub the water on the skin and the sand takes off the dirt. They don't like to have you get funny about it in your remarks.

"While I was there, Sol Metzger, with a line of leather goods, came along and signed up for three-fifty a day, American plan, bath thrown in. Sol went up-stairs to get all he could for his three-fifty.

"Pretty soon he telephoned down:

"'Dot's a nice mud-bat' I got here; but vill you send up some clean water, so I git a wash-off w'en I'm through?'

"George Youngerman is chief clerk there now, and he got the call.

"That isn't the way we do it here, Mr. Metzger," he replied. "Ring me up when you're dry, and I'll send a bell-boy up to brush you off.'"

"Nice people down South," commented Andy Crothers, "but too pious mostly for my business. I handle feathers exclusively, and some of the churches object to them. There are whole sections where I can't sell even a robbin's wing. About the only chance the women have to show off their clothes is at church, and every time a woman shows up with a feather in her hat the preacher begins to make remarks at her.

"There are a few towns, however, right in the middle of the religious section, where the women want the longest and fluffiest feathers I carry. If it were not for them I'd have to cut out the whole section.

"One day I was in a pretty lively town in Kentucky, where half the women go regularly to meeting with flowers in their hats, and the other half don't go at all and wear feathers. While I was talking to a customer, in came one of the flower kind, and a new clerk, not knowing the difference, began to show her some of the latest hats all fussed over the top with feathers.

"My customer saw the woman's sour look, so she called the girl over and said:

"'Show her something cheap and virtuous.'

In Stop-Over Towns.

"I showed my samples in a queer place in a little Iowa town," broke in Emil Holden, who handles textiles. "I arrived late in the afternoon, and the hotel was full of traveling men. There wasn't a bed or a sample room to be had, and the only place to show my line was in the street. But one of my customers came down to the depot, and I opened a trunk for him in the baggage-room.

"He asked for goods I had in another, and in five minutes I had my samples all

over the baggage-room. I slipped the baggageman a couple of dollars, and sent word up-town that I could only keep my trunks open an hour; so they all came down and made the fellows in the hotel wait. After I had finished, I packed up and ate supper in the next town."

"I can beat that," said George Harding, who goes on the road for half a dozen manufacturers of brass novelties. "I have a customer in a jerk-water town in Kentucky who isn't quite worth a stop-over, because there is only one train a day and there are more important towns on the road.

"On this last trip I wrote him to meet me at the station and ride on to the next town with me, but when we pulled in he wasn't there. I had five minutes, and I used it to sprint a block and a half to his store. He said he was loaded up; but I told him that was no answer, and he promised to be on hand two days later, on my return trip.

"Coming back, one of the Pullmans was empty. I tipped the porter a dollar, he brought in a few trays of my best stuff, and I arranged it on the seats of the whole car. My customer was there, made his selections, bought a bunch of stuff, and the whole deal was closed in five minutes."

No one could match that; but Mort Goodkind had a story of two Irish high-graders from Goldfield who went down to San Francisco in the same sleeper with him. They had a section between them; and when it came time to go to bed, the fellow who drew the upper merely slipped off his shoes and rolled in. The one in the lower seemed to be encountering difficulties. Finally the one up above called down:

"'What's the matter, Mike? Don't you like your bunk? Every time I fall asleep, you give a bump and I wake up.'

"'It's this hammick. I have tried three times to git into it, and every time I fall out."

A Tough Hide.

"Who do you think is con in there?" asked Fisher, as he returned from the diner. "My old rubber, Jim Miles. You know I used to be in the physical culture business. He rubbed them down when I got through. He has only a thumb and one finger on each hand, but he *can* rub with those. He lost all the others braking; and I have often heard my customers grunt out between groans, 'Wish the wreck had taken the other fingers, too.' He was too much for them—all except the game old fellow who couldn't stand punishment enough.

"He was a withered specimen, so I took forty off him before I would begin. Then I made him stand straight and throw back his arms. It nearly killed him. I thought his backbone would break. But I made him go through the regular exercise, and he kept up as best he could. When I got through I turned him over to Jim, and whispered, 'Go easy.' But Jim smiled, and began to pound his tough old hide.

"'You need a good rub to wake you up,' Jim said, and the old fellow smiled feebly. Then Jim slapped him a few times, and, rolling him over on his back, grabbed at his solar plexus to ease up the stomach muscles. The old man grinned, and said he liked it. Jim couldn't pummel him more than he liked. Not *him!* He was a fiend for punishment.

"Finally Jim gave him a couple that made him wince, and he looked down to see if he wasn't bleeding. He turned the old fellow over, and then it seemed as if he was scraping the old man's backbone. All at once the old codger saw Jim's thumb and forefinger, and that's all he could see. The others he felt pulling his insides loose. He just fainted."

How Culley Got Even.

"So this is Albany," said Harry Culley, a clothing salesman, as they pulled into the station. "I'm even with this town now, but it took me four years. I came in worn out one afternoon, and fell into the first barber's chair I saw. I said I wanted a shave, and went right off to sleep. A long time afterward I woke up and learned I had had a shave, hair-cut, shampoo, singe, face massage, scalp massage, two or three kinds of rubs, and the check was two dollars and ten cents.

"I laid down a quarter and started in to clean out the place, but they were prepared for it, and had me arrested for disturbing the peace. The fine was twenty-five dollars, and I didn't have but ten

dollars. After sleeping in jail all night, I had to wire my house, and they never quit thinking about the time I got drunk in Albany. I remembered the face on that barber. I went back to Albany later to lick him, and with plenty of money to pay my fine, but he was gone.

"I was afraid I would never see him again; but I walked into a car down in Ohio last week, and there he was. I could see he did not recognize me, so I sat down and made out that I was glad to see him. I told him I was an old customer, and he became quite friendly. All the time I was thinking how I could pay him off.

"We got off two or three times together at stations, and at a long stop I induced him to walk away from the train. He was nervous and looking back, but I told him we had plenty of time until the train actually started. Then we both ran for it. I kept ahead and jumped on the last platform, turning on the lower step so he couldn't get a foothold. The train was going faster and faster, and he was getting red in the face, but I stood there. He looked up to see why I didn't get out of the way, and I was grinning.

"'Do you remember the time you had me put in jail because you charged me two dollars and ten cents for a shave?'

"It came back to him in a flash, but he made a last effort to get aboard. It was almost too easy, but I did it. I put my foot on his chest and sent him sprawling.

"'We're even!' I cried exultingly, and he heard me, even while his vest was scraping the cinders."

Saved by His Wife.

"I was going to have a scrap with a customer this trip. You make me think of it," said Alfred Ringgold, a clothing salesman. "Nothing but his pretty fool wife saved him."

"Maybe some of you remember Louis Stern, who was cutting prices on lower State Street, in Chicago, a few years ago. It was him. He thought he could do the same kind of business in a country town, and failed. What made me maddest was that it was a good town, and I had lost money there in the same way. They cut prices so low they spoiled their market, both of them. I told Stern to be careful, but he was a smart Aleck, and he said he knew his own business.

"When I was in Omaha three weeks ago, the house wired me that he failed, and I went over to see what we could save. I found it in a bad way. The stock was all gone, and the money with it. I was hot, and I said what I thought.

"You know what I told you," I said. "But you're one of these fellows who can't learn. You knew Abe Harris failed for thirty cents on the dollar with that same kind of funny business, but of course you were so smart, and you had to see if you couldn't do worse."

His wife was standing right there.

"Oh, but we don't fail so bad as that," she said. "What was that you was saying, Louis—we will fail for only ten cents on the dollar?"

Down-East Arithmetic.

"That sounds like Down-East arithmetic," laughed Harry Culley. "Those old fellows down there know how to figure everything to their advantage. When I was a youngster, I traveled the coast towns for a grocery house, and made every lobster-pot village on the map. Most of them were ten to twenty miles off the railroad, and I had to hire a sort of buckboard they call a barge. Mostly, I went alone, but now and then I found some one to split the expense with me.

"There was one little town out on a point of land, and going down there once, I picked up with the captain of a little lobster-smack who'd been in the interior with his wife and kid.

"We all drove down together, and when we arrived my customer was out to meet us, and I could tell by his manner that the captain was a sort of local lion, and he wanted to do him the honors. We began to unpack our stuff from the wagon, and the captain discovered the handle of his umbrella had been broken.

"'What — broken!' exclaimed my customer; and then, turning on the boy who drove us down, he began: 'Now, look here; you'll hev to pay fer that. You cain't drive the cap'n down here and smash his umbrelly without payin' fer it. How much'd this leetle shower-stick cost you, cap'n?'

"'Lesse,' said the captain; 'bought

that in Boston a year and a half ago, and I paid a dollar seventy-five cents fer it.'

"'Yes, and you paid seventy-five cents to have it recovered last winter,' chirped his wife.

"'Y'see,' said my customer, 'that's two and a half you'll have to pay, my boy.'

"And I laughed so I almost lost him."

Afraid It Would Go Stale.

"Say what you like about the pie," sighed Mort Goodkind, "but I wished they learned how to make good Yankee pie at the lunch-counters along the Western roads.

"There's a town in Colorado where the same pie stood on the lower shelf while I made two trips. It looked so unwholesome nobody could eat it. I wish I had seen the fellow they tell about in Nebraska who gave the lunch-counter a new start in life.

"He came through on a train that was stalled a few stations above Grand Island, and began looking around for entertainment. The only thing worth noticing was the lunch-counter, so he sized it up, and the further he went the more interesting it became to him. There was one pile of sandwiches he eyed so long that the girl behind the counter said:

"'Well, ye goin' to give yer mouth a chanct after a while?'

"'Gently now, little girl,' he replied. 'Mustn't speak up in the presence of your elders. I was just renewing the acquaintance of some of these old friends I saw when I passed through here with the grading crew of the Union Pacific.

"'And I was considering something,' he went on, while the girl was thinking of a sharp answer. 'Gimme two or three cups of coffee right away, quick. Maybe I won't have time if you don't hurry.'

"Then he began to stow away everything in sight, starting on one end of the shelf and eating each thing as he came to it as fast as he could wash it down.

"The girl stood there, fascinated, hardly able to keep count, while he went through sickly pie, shriveled cake, curled-up sandwiches, pickles, boiled eggs, charlotte-russe, one after the other.

"He kept the girl on the hotfoot after coffee. It got to be a pretty fierce contest between him and what was left on the counter, but he put it all away."

"'Nine dollars and eighty cents,' the girl said when he finished.

"'You needn't take so much satisfaction out of it,' he remarked as he paid. 'It was worth it to me. When I come along here in another thirty or forty years, there'll be something fresh on the counter!'"

When Maudie Spoke.

"I know a girl who would have had an answer for him, all right," said Fisher, getting back into the conversation. "Her name is Maudie, and she is down in the hard coal section of Pennsylvania. Something like a thousand times a year she throws a hot platter at a bunch of miners, and in fifteen minutes she has the table cleared and set for the next meal.

"No monkey business about the way those fellows eat, and she was used to their ways. But along came T. Arthur Chauncey. He used to be on the road with textiles before he got his bit from home, don't you know. He was one of these neat and careful fellows—always chewed his food well. He was held up in the town where Maudie worked, and had to eat there. Maudie served him.

"He took what was set down in front of him without saying anything, eating off the edges; but when she brought him a thick cup slopping over with coffee and milk, he said to her mildly:

"'I say, don't you know, I like mine black, my fine girl, and hot, very hot, and have it made strong, quite strong.'

"Maudie listened to all this, and then she sung out to the colored cook through the hole in the wall:

"'Oh, Percy, make a fresh pot, and make it hot, blamed hot, and strong, blamed strong, for a blamed particular gent!'"

A Pullman can't go without an engine any more than a day coach. Motive power before glad rags.—Philosophy of a Tallow Pot.

Observations of a Country Station-Agent.

BY J. E. SMITH.

No. 22. — The Trials and Tribulations of Captain Fish, Who Had that Suffering Air of Martyrdom and All Other Natural Heritages that Make the Ideal Claim-Agent.

CAPTAIN FISH, over on the H., B. and M., was designed by nature to be a claim-agent for a railroad. He goes about with a shrinking, suffering air of martyrdom. He talks with soft and apologetic voice. His meekness and sufferance and sadness and wo, all natural heritages, serve to put the claimant in the attitude of robbing the lowly and deserving, and keeps the settling figures down to the point which human sympathy indicates.

There are claim-agents who are bold and combative, who aim rigidly at the strictly legal aspect of affairs, and to whom a fellow feeling is unknown. They harvest lawsuits and ill will.

Not so with Captain Fish. Neither judge nor jury for him. He sees nothing but the good intent and poverty of his road, and the compassion of the people. On these human lines he settles everything.

When he draws his pay, it pains him to tears of commiseration that he has to take the money from the company.

So his life is sad, for he is compelled to allow a little here and a little there. Vouchers will always follow vouchers.

When the seasons are dry, and the locomotive-spark leaves its trail of desolation along the adjoining meadows and wood, the captain enters upon a period of adjustment.

Then he is in a state of mind that makes "The melancholy days are here" appear like the visit of a three-ring circus in a coon town.

All in all, the captain saves his road a great deal of money, keeps litigation down to near zero, and does it all with that dismal, wobegone cast of countenance and that doleful voice—all bequeathed him by the Creator.

Far be it for me to indicate that these sepulchral qualities constitute the captain's entire repertoire. He has, in addition, the fine art of judging human nature accurately, and turning to advantage the qualities he finds in his fellow man.

Delay, conciliation, and compromise are the weapons used by the captain to meet the complaints that come to him.

I am indebted to the captain for the tales that follow.

One dismal day we fell to talking about the railroads and the "peeple."

The captain bewailed, with a sort of dyspeptic sorrow, the lack of honesty and

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perspicacity in the common run of human kind.

"If," said he, "we kill a cow, it is always a pedigreed Holstein, and the most valuable animal on the farm. If we burn a meadow, the timothy runs three tons to the acre. No train ever killed an elm-peeler hog. When we deal out death and destruction, we invariably hit the finest and most highly prized things the earth produces."

"Don't the claimants ever volunteer the correct value information?" I asked innocently.

"I never had that experience but one time," replied the captain dryly. "Maybe you have been on your back with a fever? You have? Well, you will recall how your mind went whirling around with all kinds of crazy and exaggerated ideas and images, and most of them related to your business.

"When I was down with the typhoid, my distorted fancy was all the time adjusting claims. One day I thought we had killed a horse, and I went over to the owner. We walked down on the railroad together, and sat down on the grassy bank.

"'Captain,' said the owner, 'that horse was the worst old crow-bait on the farm. He was twenty-seven years old this summer. He hasn't done a lick of work for three years, only to eat up my good corn and hay. But he's always been in the family, and we had sentimental reasons for not turning him out to die. I calculate you've saved me twenty dollars a year, and I will be glad to present the company with ten dollars as a mark of appreciation for what they have done for me. Oh, no! He didn't get onto the track through a defective fence. He got on at the public highway. Any one can see that—'

"My pulse let out a few extra kicks, and my fever went up a few notches. I have a hazy remembrance of the old doctor. 'He's taken a turn for the worse,' said he. 'You'd better notify his folks.'

"It came pretty near putting the finishing touches to me. It takes a good constitution to get over a shock like that.

"A railroad is always on the defensive," continued the captain. "No matter which direction we take, or which way we turn, or what we propose, we are held up, harassed, enjoined, and blackmailed. We are the legitimate prey of all the unscrupulous gorillas and rapacious freebooters that infest this fair land, and constitute, we will say," continued the captain reflectively, "about eighty or ninety per cent of the population."

"You and I, captain," said I, by way of cheer, "are trailing along in a hopeless minority."

"I am," retorted the captain. "That much is sure. I know I am."

The captain went solemnly into a nearby café, and, under the genial inspiration of a glass of cold water and a bowl of chopped elm shavings with blue milk, narrated some of the experiences of a man whose duty it is to investigate the petty claims that come from the people along his railway.

One day the captain found a letter on his desk, "respectfully referred." It was addressed to the president of the road, but, by the "respectfully referred" route, it reached the captain's desk in due time. It read:

Grafthurst, Ind, Aug 13.

DEAR SIR & HONORED

Your trane kilt 8 of my best hogs friday night I showd your Sec foreman where they got under the fence but he gif me no satisfaction I want pay for them hogs and darn quick.

CRIS BAILY.

It is a curious fact, and but little known outside, how large a proportion of the letters of complaint that come to a railroad office make summary demands and convey a threat or intimation, indicating the pugnacious attitude of the writer. The first crude thought of the unsophisticated mind is that a show of belligerency will frighten the officials into immediate settlement.

Many a letter has contained this ominous ultimatum: "I'll give you just five days to pay for that spotted calf."

It gratifies the writer, for his unbaked fancy sees the claim-agent making the double hump and taking the hurdles to keep within the limit.

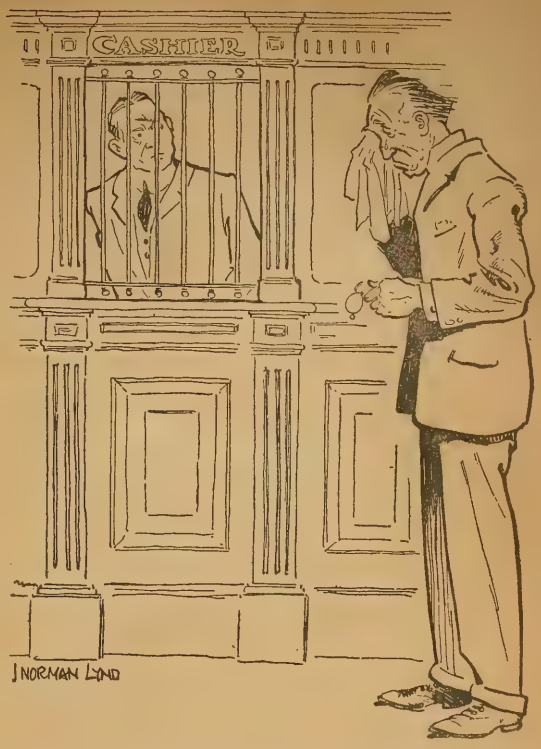
But here are the cold facts: regardless of the time limit set by the claimant and the dire consequences to follow, spotted calves are never settled for in five days. The claim-agent doggedly faces the perils

of delay, and goes about the necessary investigation in the usual way. If a voucher comes to the claimant, it comes along with the same old circumlocution that all vouchers take.

So it is noted of the captain, when he read Cris Baily's closing sentence, "I want pay for them hogs, and darn quick," he neither batted an eye nor drew an extra breath.

In a general way, a claim-agent, after a number of years on a road, learns to know fairly well a majority of the farmers owning land adjoining the railroad.

In this instance, Cris Baily was an unknown quantity to the captain. He was a recent arrival, and only a small portion of his farm, containing a wood pasture, touched the right of way. This was the first matter that had come up between Baily and the railroad, and the captain thought it wise to reconnoiter about the neighborhood and learn what he could, and to inspect the fences before approaching Baily direct.



IT PAINS HIM TO TEARS OF COMMISERATION THAT HE HAS TO TAKE THE MONEY FROM THE COMPANY.

In common law, a man is held innocent until proven guilty. In railroad law, a claim is fraudulent until proven valid.

The captain visited the spot where the eight porkers came to their tragic end. He examined the fences, and found where they had crawled under and onto the right of way.

A railroad company builds and maintains all fences, and they must be hog-proof—even to barring out the little curly tailed piglets. Granger legislation has seen to all of that. Failing to have them so puts the liability on the company.

The captain convinced himself that, in this particular case, the company's defense was weak. But he wanted to know more. He wanted further information about hogs in general, and about the claimant in particular, and this he proceeded to get.

He drove out to the neighborhood where Baily lived, and, in an aimless sort of way, drove into the barn-yard of a neighboring farmer to water his horse.

"This has been a pretty good year for farmers, hasn't it?" asked the captain in friendly conversational venture.

"Well, I don't know so much about that," responded the farmer. "Suppose we ortn't complain, but wheat ain't turning out anything extra. It didn't fill as well as I thought it would."

"Fine weather we're having," said the captain.

"Not as fine as it might be. Corn needs rain purty bad, right now. I reckon if it don't rain inside o' ten days, we won't have much more'n nubbins."

"S'pose you raise a good many cattle. And hogs. I see hogs quoted at eight dollars and thirty cents yesterday. That's about the fanciest price I ever knew hogs to be."

"Huh! The year after the war they wus twelve dollars. They wus worth raisin' in them days. Ain't been nothing like it since for a farmer."

"Still, there ought to be good money in hogs at eight dollars," persisted the captain.

"They ort to be, but they ain't always,"

replied the farmer with a look of disgust on his face. "People think a farmer's always makin' so much money. They don't know what he's up agin all the time.

"Now take hogs for instant, that you wus just talking about. If a farmer feeds seventy-five-cent corn into a parcel of shoats until they get to weigh'n' two or three hundred, then in one week the cholera comes along and lays out the whole bunch, you wouldn't think that wus such a durned money-makin' scheme, would you? Heh? Even if they are eight dollars a hundred?"

"I didn't know there was any such thing as hog cholera any more," said the captain. "I thought medical science had done away with all those anthrax disorders."

"You must be a stranger in these parts. Why, sir, there hav'n', right here now, the worst siege of hog cholera I've ever know'd."

"Indeed! Is that so?" exclaimed the captain in surprise. "Have you lost any?"

"About ten," replied the farmer.

"Your neighbor, Baily — has he lost any?"

"Cris had a bunch 'bout to die. I don't know just how many. He keeps his pigs in the wood pasture down on the railroad. A hired hand who was workin' for me happed down there, and told me he counted eight dead ons. The next day I heard eight of 'em had been killed on the railroad. That ain't quite as lingerin' as cholera, and it pays better to have 'em go that way. But ain't all of us got a railroad handy that we can drag the carcasses onto."

"PEOPLE THINK A FARMER'S ALWAYS MAKIN' SO MUCH MONEY."

"Where is this hired hand?" asked the captain somewhat eagerly.

"Don't have any idea," replied the farmer. "He tramped in. Just stayed with me during harvest and slid out. Don't even know his name — only Joe. You'll never see him ag'in. He's just one of them floaters that don't stay long any place. He's a hundred miles from here by this time, and I don't even know what direction he took."

"Is Baily a pretty square sort of a

man?" asked the captain. "Does he bear a good reputation?"

"Well, I can't say much about that," replied the farmer. "He come here from Tennessee two years ago. It's been whispered around that he was moonshinin' down there, and was run out by government men. It's been said he run away with another man's wife and come up here. I don't know if all that's so or not, but I ain't surprised eny.

"Tell you the truth, stranger, I don't take no stock in him. As for them hogs bein' killed by a train — I got my own opinion — but what eny of us thinks wouldn't go in court.

"It looks more like rain to-day than it did yesterday. Wouldn't be surprised if we didn't have a plenty before the week's out. Won't you unhitch and eat a bite? Oh, well— Good day! Good day!"

The captain had the facts.

Cris Baily's hogs had died of cholera, and he had placed them on the track, expecting to collect from the railroad.

When it comes to fighting and rebutting an unjust claim, the captain was tireless and resourceful. In this case there seemed but one way open in the absence of proof. Confront Baily boldly, accuse him, and bluff him into acknowledgment and withdrawal.

But could a Tennessee ex-moonshiner be bluffed? If not, what next? Let him sue. Stand trial. Tell a jury of farmers our suspicions? Nix! thought the captain. Proof must be found.

The captain headed for Cris Baily's. Before him there was a turn of the road, and in the angle was an open piece of ground with a clump of trees.

Under their shading hospitality some gipsies had camped, with the usual assortment of broken-down horses, rickety wagons, dogs, swarthy sanyoras, and ragged children.

The captain stopped.

He was in sight of Cris Baily's house, and he could plainly see Baily out near the barn doing some work.

"YOU PUTA PIGS ON THE TRACK."

Two of the vagabond queens rushed out to the captain. One reached for his hand.

"Tell a fortune!" she cried importuningly. "Tell a fortune—the past and the future — only ten a centa! Good luck! Good luck! All about!"

The captain instinctively drew back his hand.

"Hold on!" said the captain. "Not so fast, my tawny skinned sorceress. Most of us would give you something not to tell the past, and the future be hanged. But say, do you see that man up yonder near the barn?"

They nodded an affirmative.

"If you'll go up there and tell his fortune—handing him some of the past and laying it heavy on the future—I'll give you a dollar."

The swarthy mendicants jumped at the chance for sudden wealth.

The captain held a rehearsal. He juggled Cris Baily's past, went into his future, and made the fortune-tellers understand.

Cris Baily was grinding a scythe, unconscious of revelations, when suddenly confronted by the two dark-eyed, turbaned revealers of the hidden.

One of them grabbed his hand.

"Tella your fortune!" she cried. "Tena cent. I read it in a hand. The lines, they tell—"

"Clear out!" yelled Cris, getting his wind. "Off with you! Git!"

"You maka whisky one time," persisted the woman unblinkingly. "They hunta you long time—police—in a south—mountains — and a woods — you geta away!"

"Hold on! What are you giving me?" cried Cris.

"I reada your hand. The lines, they tell. I know alla the past. I tella the fute. Everything! I gotta the power!"

Cris held out his hand.

"Go on! Go on!" he cried eagerly. "Is there anything else? Here's a dime."

She bent over the palm of his hand.

"You gotta away. You taka a woman — another woman. Nota your wife! No! No! An' you comea here!"

"That's enough!" cried Cris, standing up, stiff and pale. "I don't want any more."

The woman held on doggedly.

"The future it all here," the woman went on. "It looka dark. Penetentiare! Prison! Prison! They senda you up! It looka dark. I see all! Everything! You puta pigs on the track. Railroad engine comea along. I know! I see! Soon they comea along, and get you for that. Soon! Ver' soon! They locka you up long, long time. I tell it you. Et all true! Some one knows, and railroad finda et all out. All ver' soon."

Cris jerked his hand away and started for the house. But he stopped, turned, and called after the witches.

When they returned to camp, they had from Cris Baily all the chickens, corn, and farm produce they could lug. The patient, waiting captain knew all this plunder was the sign and seal of secrecy, and he drove away in triumphant satisfaction.

In the course of a few days, by the "respectfully referred" route, another letter found its way to the captain's desk. It read:

Grafthurst, Ind, Aug 28—

PREST OF R. R.

I wrote you two weeks ago about my clame for ate 8 hogs which was killed on your track. I find I am to blame for them hogs gittin on the track as I made a bad place in the fence and I forgot to fix it up. I want to do what's fare and wright between man and man and I withdraw my clame—I remane

very truly, yours CRIS BAILY.

P. S.—There aint nothing for the railroad to pay. everything is now square—right is right.

The captain let out that jubilant chuckle of conquest known only to Pluto and the railroad claim-agent.

It pains the writer, after showing the cleverness of the captain in the above story, to be compelled to narrate another, wherein he emerges with less distinction. But railroad experiences must be given as they occur, and without regard to the merit, praise, or humiliation of the ones involved.

The poet who sings pæans of praise to womankind, extolling her beauty and gentleness, evidently never met Ann Hamerwalt, or he would have found the need of a discordant line in the chorus.

Architecturally, Ann is a sky-scraper without ornaments.

She owns a piece of land touching the railroad, and she rules over it like a pagan queen. She lives alone, and defies mankind in all the courts.

When a trespasser, or a luckless hunter, or a mendicant pedler, or any other of the itinerary gentry encroaches upon her preserves, Ann delivers a "Move on!" command that makes her easily the military figure of the district.

There is no open-hearted hospitality for the neighborhood at Ann's, and no "Welcome" motto hangs over the door for the wayfaring stranger.

CONVINCED HIMSELF THAT IN THIS PARTICULAR CASE THE COMPANY'S DEFENSE WAS WEAK.

One day a vagrant spark from a passing locomotive touched off some dry grass, and when the smoke had cleared away, a number of rods of rail fence running up toward Ann's house were destroyed.

The section foreman, with the instinct of a true fireman, arrived too late, and Ann turned on him with ribald abuse.

The section foreman said he would report it at once, and that the claim-agent would be along to settle the damage.

After a number of days, the captain appeared at Ann Hamerwalt's door.

"Is this Mrs. Hamerwalt?" asked the captain with ingratiating suavity.

"Yes, sir!" came the tart reply.

"I am Captain Fish, the railroad claim-agent."

"Come in. Set down right there!"

It wasn't an invitation. It was a command; and the captain, like a true soldier, obeyed.

When the captain was seated, Ann arose to her full six feet of regal majesty—to her full queenly stature. She was somewhat bent and brown and unkempt, and not so regal or queenly that you would notice it.

Ann assumed the aggressive.

"You know that your engine set that fence afire, don't you?"

"From what evidence we have, we think—"

"There ain't any think about it. You know it!"

"Well, we haven't—"

"Yes, you have," snapped Ann. "You know it. You ain't a fool. You know you burned my fence. Maybe you think, just because I'm a woman, you'll fool me or bluff me."

Ann gave a whistle, and instantly a bulldog appeared, with his front feet on the door-step, and cast a red, suspicious eye on the captain. "Lay down, Bull!"

The dog occupied the doorway, and kept the captain under a cold, unblinking surveillance.

"It is this way, Mrs. Hamerwalt," said the captain, feigning an easy indifference. "We'll say that our engine set the fence afire, but we must know just how many rods, and how many rails, and how old the fence was, and what condition the material was—"

"You'll pay me just fifteen dollars," said Ann briskly.

"That seems somewhat excessive, I—"

"No use to argue about it. That's it. Fifteen dollars. I know what a fence's worth, and I know what you burned!"

"Very well," said the captain; "I will put it up to the company that way, and we'll see what they think of it."

"What they think!" shrieked Ann. "It's what I think! I think fifteen dollars! And that's all there is to it!"

"Oh, very well," replied the captain assuringly. "The company may think that is a reasonable figure. It will take a little time."

"It's fifteen dollars, and it's goin' to be paid, and it's goin' to be paid right now!"

"Right now!" exclaimed the astonished captain. "Why, madam, that's impossible. The matter must be referred and approved."

The captain arose as if to exit, but the dog with a projecting jaw let out an ominous signal that effectually flagged the captain, who at once resumed his seat and assumed a humble, conciliatory tone.

"We'll make it fifteen dollars, Mrs. Hamerwalt," he said. "We want to deal fairly with you. I'll see that you get your money. You see, Mrs. Hamerwalt, when a claim is paid, the papers must pass through a number of departments, and the treasurer of the road finally draws a voucher for the amount."

"That may be your way, but my way's different," retorted Ann. "You burned the fence. It's fifteen dollars, and you're goin' to pay—and before you leave this house. You've got the money, and you're goin' to fork it over, right here and now!"

Ann gave the table an emphatic thump.

"Why, really, Mrs. Hamerwalt," protested the captain, "this is extraordinary. This is a most unusual and high-handed proceeding, I must say, Mrs. Hamerwalt—"

"There ain't any use hav'n' any more words. You heard what I said. That's all there is to it!"

Now, the woman had a double-barreled shotgun in the corner and a brute of a bulldog in the door. A braver man than the captain would have reckoned twice or thrice before going against this combination.

The captain did not have the courage to make a break for liberty. The captain had always found this a world of sorrow and injustice, but he was taking no chances on any unexpected exit from it. So he went deep down in his pocket and extracted the last farthing, and, altogether, it totaled ten dollars and forty cents. Then he offered to add his watch, but Ann observed dryly that "Purty good-looking watches are sold for a dollar, and maybe that's one of them."

At length, when the captain with one keen jump cleared the barbed-wire fence from the domain of Ann Hamerwalt and lit on the right of way of the railroad, he was moneyless, watchless, and coatless.

Then the captain went up and borrowed five dollars of the station-agent, and got the section foreman to go over to Ann Hamerwalt's with it, and rescue the watch and coat.

It was one of the neatest and quickest settlements ever effected. The captain acknowledged that.

Some time ago, an old man who lost a cow on a certain road received a voucher for forty dollars and cashed it. On his way home he lost his pocketbook, and this misfortune moved him to write the following letter to the railroad:

DEAR SIR:

I am an old man and me and the old woman live alone. We haven't but a little of this world's goods. And we have a hard time getting along. We go to church regular. I am an old soldier. I was with Rosencrans at Corinth, and Murfreesboro, and Stone River. I always vote the Republican ticket. You are a great corporation and have got lots of money, because the country's what it is, and I helpt make it that way. What is forty dollars to you? You would never miss it. I lost that 40

A BRAVER MAN WOULD HAVE RECKONED TWICE OR THRICE BEFORE GOING AGAINST THIS COMBINATION.

dollars that you paid me for my cow. I thought if I explained it to you, and all about myself maybe you would pay it again. Think it over. With the greatest respect and well wishes, I am yours very truly, URIAH H. SMALL.

This appeal has a touch of piety and patriotism, and being of a sentimental turn, it pains me to add that the railroad has not yet "come across" with the second forty.

Not yet—but soon!

VISIBLE TELEPHONING.

Device Which Will Show You Who You Are Talking To and Whether She Is Pretty.

SEEING by wire has long been the dream of most inventors, and not a few in the past have wasted both time and energy in attempting to solve the mystery.

It has, however, fallen to the lot of two Danes, brothers named Andersen, says *Railroad Men*, to be the first to invent an apparatus by which can be seen what is going on at the other end of a telephone wire.

The details of the invention are naturally kept secret, but there appears to be no doubt as to its genuineness. An engineer of high repute has just tested the claims of the Andersens, and the expert declared the claim to be entirely justified.

The process is described as entirely new and very simple. It differs from the Korn and other systems of phototelegraphy, inasmuch as it makes no use of photography, but transmits light and colors directly. Any person speaking at a telephone fitted with the apparatus can be readily seen from the other end of the wire, and he likewise can show anything he desires to exhibit across the wires.

The Andersens have taken eight years to probe the mystery. They are of humble parentage—the sons of a saddler at Odense—and are aged twenty-eight and thirty, respectively.

WHEN THE DEVIL DRIVES.

BY ROBERT T. CREEL.

It Is Well to Remember That a Touch of Nature Makes the Whole World Kin.

"GOIN' to make 'er out?" inquired the brakeman, holding his lantern close to Eldon's face.

"I don't know. What'll it cost for me an' the kid to git to Woodville?"

"I'll carry you for a dollar apiece. I got a car open. I can put you in."

"Too much. It's only fifty miles," objected Eldon.

"Can't help it. That's what I always charge. Anyhow, you'll make it easy after you git past Woodville. The fellers on the other division don't watch close," urged the brakeman.

"All right. Show us the car. Come on, Freddie."

The brakeman led the way to a box car half filled with coal. "Get in here, an' keep back out of sight."

Eldon climbed in after the lad, and the two crawled far back into a corner.

This kind of travel was a new experience for John Eldon. However, when one's boy has a cough that, the doctor says, will develop into consumption unless he is taken to a better climate; and when the mill in which a man labors is shut down, there is not much choice.

Although the roofs of the passenger-coaches offered a much swifter mode of travel, he had decided to make his way more slowly, by freight-train, on account of Freddie. He believed that, with the few dollars he had, he could pay the brakemen and have a little left at the journey's end.

From various bits of misinformation, he had formed the erroneous, if popular, idea that all trainmen are dishonest, collecting money from tramps whenever the opportunity offers. Having fallen in with such a one, although they are as numerous as white crows, at the outset of his journey his original opinion was confirmed.

"Gee, I'm glad we're started!" whispered the boy as the car jerked forward.

"Heaven knows I wish it was over," muttered his father grimly.

Presently the lad huddled down on the coal and fell asleep. The man, after covering the small form with his coat, crept forward to the door, and gazed at the moonlit waste as it passed. In his slow way, John Eldon was worried. Since the death of his wife his whole interest centered on the child. Now, if not successful in making his way South, or, on arriving, if he could not secure proper care for the little fellow—he was likely to be left alone.

"Come out of that. What you doin' in there?" It was another brakeman who clambered in at the door. "You better drop off right here. We don't carry boes on this train."

"I paid one of you fellers to take me to Woodville," replied Eldon sullenly.

"Said he'd take you, did he? Well, he can't take you on this train, and the sooner you grasp that the better it'll be for you."

Knowing that the brakeman could enforce his command, Eldon aroused Freddie, whom the other now observed for the first time.

"Hold on, there! That boy can't walk anywhere this time of night. I guess you can stay on till we reach Woodville. We're nearly there now. That's as far as we go, so you want to be careful you don't get pinched."

"Much obliged," responded Eldon.

When he heard the whistle of the engine, he prepared to leave the train.

"Think you're good for the rest of the night on the rods, Freddie?"

"Yes. I think so."

"That's what we'll have to do if they won't let us go in the cars. But it'll not be many days till we're there. Then we'll get you cured of that cough." He spoke almost tenderly.

As the train slackened speed, Eldon watched for a favorable moment, and, with the boy, dropped to the ground. Stealthily making their way along the lines of cars, they came to the other end of the yards, where they found another train on the side-track, ready to pull out.

"This is luck," said the man, halting beside the water-tank. "Now, if we can find an open car, we'll be all right. You stay here while I look for one."

He left Freddie in the shadow and hurried down the length of the train, looking for an open door, concealing himself whenever he saw a lantern approaching. He was determined to have no more dealings with brakemen. Unsuccessful in his quest, he returned to the tank.

"I guess it'll be the rods, sure enough," he whispered. Seeing a lantern stationary a few feet on the opposite side of the tank, he added: "Be quiet until that feller moves on. If we can git in on the rods without them seein' us, I think we'll

HARRISON BATHED THE GRIMY LITTLE FACE UNTIL IT WAS WHITER THAN HIS OWN.

be safe. We'll have to wait till she starts, though."

With the creak of loosening brakes, the long train began to move. Eldon selected a huge furniture-car with low-hanging rods, and helped the boy under.

"Now lay cross-ways, an' don't go to sleep," he admonished. "If you git too tired, wait till we come to a grade, an' crawl out. I'll be on the rods, next car back."

"All right, dad," Freddie answered wearily.

"Funny thing nobody saw us," reflected Eldon, taking his place under the car he had chosen for himself.

For some time he watched the ties flickering swiftly beneath him, and the rails, like ribbons, running smoothly from under the wheels. Then, the train started up a long grade. The ties passed less and less rapidly, until they seemed to move but little faster than a man could walk. Eldon had fallen into a half-doze.

From somewhere in front came a hollow thump, repeated several times at short intervals.

"Sounds like some one's poundin' on the cars," observed Eldon drowsily. So in fact they were, but he little suspected for what purpose.

Any hobo could have explained the sounds, had he been told that "Stoney" Harrison was on this train. He never took money from any one whom he caught stealing a ride. Instead, he seemed to encourage the practise by pretending not to see the culprits until they reached the Clark Mountain grade, when he would jump to the ground and run along beside the cars, pelting the unfortunates on the rods with rocks. By this playful habit, he had almost stopped the hobo-travel on that division.

Because Eldon knew nothing of this, he paid little attention to the sounds. The loud roar of escaping steam from the engine was almost deafening. But, had he listened closely, he might have heard a faint, shrill cry. Soon he noted that more dust than usual was in the air. Something was being dragged by the forward trucks. The moment he saw it, the thing worked free. It came toward him. With trembling hand, he seized the limp shape, raised it, and looked into the bruised, bloody face of his boy.

Stoney Harrison muttered to himself, as he gathered another armful of rocks. "I bet them 'boes 'll wish they'd forgot to come on this train before I'm through with 'em."

Turning, he saw a huge, dusty figure stagger from the shadow of the train, bearing a bundle in its arms. With a gasp of comprehension, the brakeman started forward.

"Why, it's a kid! My God! What've I done? What've I done? Put 'im down, you fool. Such a little feller, an' I done it—I knocked 'im off! Oh, I can't stand it!"

Harrison was sobbing brokenly, as he worked over the boy, listening for the feeble heart-beats.

Eldon had stood aside, momentarily awed by the other's emotion.

"You killed him, and I'm agoin' to kill you. Goin' to mash you," he said calmly, beginning to remove his coat. The mad gleam in his eyes was all that betrayed his fury.

With an effort, the brakeman controlled his voice. "He ain't dead, you big mutt. You go over by them bushes an' git some water in your hat. Now hurry."

When the water was brought, Harrison bathed the grimy little face until it was whiter than his own, and with his fingers brushed the cinders out of the matted hair. Eldon dumbly chafed the boy's hands. After weary hours of suspense, Freddie opened his eyes, seemingly awakened by the far-off shriek of a locomotive that echoed among the hills.

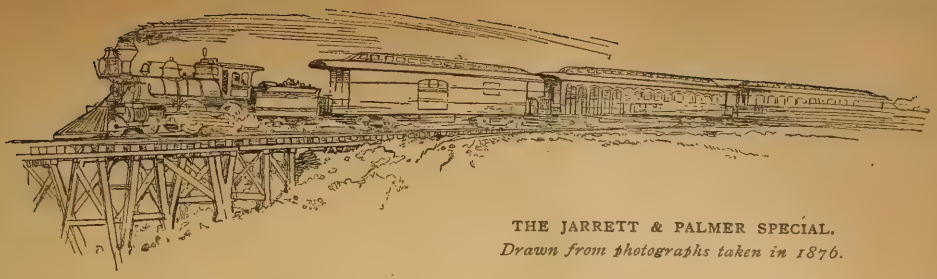
Harrison arose stiffly to his feet.

"That's the south-bound passenger. I'm goin' to flag 'er. You an' the kid can get on, an' stay on till you get to where you're goin'. Here's some money. I got my pay yesterday, so you can buy the little feller somethin' to eat."

As Eldon hesitated, he continued bitterly. "You don't need to worry about gettin' even. Just tell the people on that train what I done, an' they'll see that you git satisfaction. The boys 're all down on me, anyway."

Eldon's face lighted with a sudden resolve. "Not by a jugful! I'll tell 'em—you saved my boy—that you're white clear through."

And he held out his hand.



THE JARRETT & PALMER SPECIAL.
Drawn from photographs taken in 1876.

OLD-TIMER TALES.

The Jarrett & Palmer Special.

BY FRED. W. SAWARD.

THE account of this record trip of thirty-four years ago, we are sure, will prove as interesting to the younger men of the railway world of to-day as to their elders who are furnishing the stories for this department. It was something to have taken a train clear across the United States in those days—it was an achievement worth recording in these pages, and we are glad to have the opportunity.

Think of spinning down the steep grades of the Rockies under hand-brakes! Think of one engine running the entire distance from Ogden, Utah, to Oakland, California! Those were some of the interesting features of the run of this famous trip.

With the Crudities of Early-Day Facilities, the Time Made by This Train for 3,316 Miles—83 Hours, 37 Minutes—Was the Established Record for 30 Years.

THE railroad man lives much in the present, and yet he finds interest in the achievements of the past. Therefore, let us look back at the record of the transcontinental trip of 1876, that was a record for thirty years. That "there were giants in those days" is an old assertion, and while this often gives rise to exaggeration, it is a fact that in railroading the past has witnessed some achievements of notable consequence.

While the Pyramids and other vast accomplishments of early days might be, and probably were, put together rather crudely, railroading has always required a large measure of exactness for a successful outcome. There has always been the same narrow wheelway of iron and steel, and the same narrow flange has, of itself, stood between safety and danger.

Series began in the February Railroad Man's Magazine. Single Copies, 10 cents.

With all the crudities of early-day facilities, there was accomplished in the Centennial year a transcontinental trip from Jersey City, New Jersey, to San Francisco, California, which established a record that was not excelled for nearly thirty years.

It is true that over certain portions of the route, in the intervening years, various trains from time to time made greater speed; but such limited feats are more easily accomplished, of course, than is one great through run from ocean to ocean. Therefore, it was in every way remarkable that the Jarrett & Palmer special train of June 1-4, 1876, established a record of eighty-three hours and thirty-seven minutes for the trip to the Golden Gate—a record that was not equaled until the late E. H. Harriman, hurrying back from his activities in stricken San Francisco, achieved, in May, 1906, the wonderful transcontinental time of seventy-one hours and twenty-seven minutes—just thirty-three minutes less than three days. The best schedule time of to-day is one hundred hours and fifty-eight minutes.

Object of the Train.

The Jarrett & Palmer train made a specially arranged trip to transport the leading members of a theatrical company across the country. It was, as will be recalled, the Centennial year. Every one was thinking of our nation's century of progress; the rail route to the Pacific was almost a novelty—only seven years old—and so it seemed most opportune for the theatrical people in question to secure good press-agent stuff at that particular time by making a record run, such as had never been accomplished before.

Moreover, the Pennsylvania Railroad people were then getting their road in excellent condition, according to the moderate standards of that day, and having already made certain experiments of their own in fast running from Jersey City to Pittsburgh, and even to Chicago, the management fell in very readily with the proposition to start a fast special train on its way to the Pacific coast.

It was at 12.53 A.M. on the morning of June 1, 1876, that the record-making train left Jersey City, and Oakland, California, from whence the ferry to San Francisco was taken, was reached June 4 at 12.30 P.M., New York time, or 9.29 A.M., San Francisco time. San Francisco itself was reached by boat at 9.43 A.M., local time. This made an actual record from ferry to ferry, Jersey City to Oakland, of eighty-three hours and thirty-seven minutes—just a little less than three and a half days.

A Notable Achievement.

When we consider that the scheduled running time of the period averaged seven and a half to eight days, it will be realized how notable was the achievement of the Jarrett & Palmer special. And particularly it is to be noted that the period was not far removed from the days of Lewis and Clark and the pioneers of the overland route, being, in fact, less than thirty years after the gold-seekers' rush to California in 1849.

A paragraph of contemporaneous comment states that no unpleasant experiences marred the trip, but it is quite probable that the passengers had a bit of shaking up and were often unsteady on their feet if they wished to stroll about, for undoubtedly it was not all smooth sailing over the long route in those early days. Despite all efforts made to have the lines as clear as possible, there were, of course, innumerable slow-ups and minor delays incidental to so long a trip.

The Make-Up.

The train consisted of a baggage-car, a coach designated as a smoking and commissary car, and one Pullman sleeper. The baggage-car served the very practical purpose of carrying an additional supply of coal, as well as the luggage of the travelers; and this was an important detail, for, be it known, the entire distance from Jersey City to Pittsburgh was run without a stop.

While it was an easy matter to take water from the track tanks of the Pennsylvania Railroad, it was necessary to replenish the supply of coal on the tender from bags of fuel carried in the forward part of the baggage-car. Eight bags of first-class mail were also carried by request of the Post-Office Department.

The route was over six different rail-

road lines, for in those days the Pennsylvania route to Chicago was operated as three separate roads — the United Railroad of New Jersey (Jersey City to Philadelphia), the Pennsylvania Railroad (Philadelphia to Pittsburgh), and the Pittsburgh, Fort Wayne and Chicago, from there on to the lakeside city.

From Chicago the route westward was over the Chicago and Northwestern to Council Bluffs; the Union Pacific, from Council Bluffs to Ogden, and the Central Pacific, from Ogden to San Francisco, California.

The total distance was three thousand three hundred and sixteen miles, and the weight of the train was one hundred and twenty-six tons. The rate of speed, including stops, for the whole distance was equivalent to forty miles an hour. What might be termed sectional details of the trip were as follows:

Jersey City to Pittsburgh, 440 miles—10 hours, 5 minutes.

Pittsburgh to Chicago, 468 miles—11 hours, 31 minutes.

Chicago to Council Bluffs, 488 miles—11 hours, 30 minutes.

Council Bluffs to Ogden, 1,033 miles—24 hours, 50 minutes.

Ogden to San Francisco, 876 miles—23 hours, 38 minutes.

These time-figures aggregate 81 hours, 34 minutes; so that apparently 2 hours, 3 minutes were involved in what might be termed division terminal delays.

It will be noticed that only in the instances of the Chicago eighteen-hour trains is the distance between Jersey City, Chicago, or any of the farther points noted above, covered in any better time by regular trains to-day — thirty-three years after the above recorded feat.

Some of the Passengers.

The passengers on the record-breaking train of the Centennial year included the prominent members of the Jarrett & Palmer theatrical company, a few men identified with transportation interests, and several representatives of the foreign and American press. In all, perhaps thirty persons covered more or less of the distance, and the rate of fare to the through passengers was said to be five hundred dollars each.

A. J. Cassatt, the late president of the Pennsylvania Railroad Company, was then a young man of thirty-seven, but had already attained the rank of third vice-president of the road and was becoming known as a capitalist. He took a deep interest in the speed accomplishments of the day, and made the trip to Chicago on the train.

Another very prominent passenger was General Horace Porter, then fresh from his interesting career with General Grant in the field and in the White House, holding at the time the vice-presidency of the Pullman Palace Car Company. He was a passenger as far as Chicago, and some time ago, while ambassador to France, wrote from Paris in answer to a request for his recollections of the trip, explaining that, among other details:

"As many engineers accompanied the train as there were divisions on the route between stops, so that the engine could be run over each section by an engineer familiar with that run.

"The train was greeted by brass bands and fireworks at several points, and the passengers returned the compliments, in a measure, by setting off fireworks from the rear platform of the last car when passing large towns."

Lawrence Barrett was the leading man of the Jarrett & Palmer company, and his managers, as General Porter recalls the circumstances, were desirous of opening in San Francisco prior to the opening of a theatrical season by an English actor in similar repertoire.

It Appeared Reckless.

As one looks back, it must appear that it was a reckless enterprise — rushing across the continent at such speed under the prevailing conditions. Railroad signaling had not reached anything like the present system of automatic blocks and power interlocking installations. Air-brakes were new, and far from their present degree of perfection. Rails were light, and ballasting, excepting on the Pennsylvania itself, was of nothing like the present standard.

It is only when we look back at the many changes in construction, the reduction in grades, and the elimination of curves that have been achieved in recent

years; when we consider the heavier rails now in use, the amount of second track that has been put in place, and the development of motive power, that we realize what was accomplished in spite of the crudities of the period.

In 1876 there were no vestibule cars, the Pullman sleepers were far from the standard of the present type, and dining-cars were primitive in arrangement. In fact, it might be said that all cars of the present day are larger, heavier, and safer than those of a generation ago, with better equipment in every degree.

The trip over the Pennsylvania presented no notable physical difficulties aside from the crossing of the Alleghany Mountains at an elevation of two thousand two hundred and fifty feet above the sea. From Pittsburgh to Chicago and the Missouri River the line is as a rule level, but there were in those days innumerable grade crossings of railroads and highways, requiring caution. Beyond Omaha the country becomes steadily more rugged. The Rocky Mountains were crossed at an elevation of eight thousand two hundred and forty-two feet, and the Sierra Nevadas at seven thousand and forty-two feet.

One Engine's Run.

Naturally the greatest degree of interest attached to the trip over the Central Pacific, the line built during the Civil War days in the face of great financial, technical, and commercial difficulties.

Over this rugged route only a little better than thirty-six miles an hour could be accomplished. In the absence of track tanks, time was required to take water, and as one locomotive was run through the entire distance from Ogden to Oakland Wharf, it was necessary to stop for coal as well.

So long a run by one engine was one of the most notable features of the trip. The locomotive was one of the products of the Schenectady Locomotive Works, and would be accounted small indeed today, weighing only sixty-five thousand four hundred and fifty pounds. As a result of the fast trip across the continent, with many cautionary slow-downs, the brake-shoes on the cars were badly worn on arrival at Ogden, and the Central Pacific people not having any of the same pattern to replace them, the train was run by hand-brakes only from Ogden to Truckee.

The speed was materially lessened on the heavy descending grades, as the men feared losing control of the train.

On arrival at Truckee, Nevada, a Central Pacific car, with air-brakes in good order, was coupled onto the train, in order that the trip down the mountain might be made safely; and at the next station beyond, Summit, a second additional car was coupled in as a further precautionary measure.

When the obstacles in the way of heavy grades and curves, of which the line from Ogden to Oakland Wharf consists, are taken into consideration, it will be seen that pretty fast running was indulged in.

Through the Sierras.

From Ogden to Wells, 220 miles, the line is broken, much of it curved, with maximum grades of 95 feet per mile, the sum of the ascending grades between these two points being then 3,500 feet. From Wells to Wadsworth, 336 miles, the grade is generally descending, with a great many sharp curves in the cañon of the Humboldt River, which of course are not conducive to fast running. From Wadsworth to the summit of the Sierra Nevadas, 83 miles, is a continuous ascending grade, maximum being 105.6 feet per mile, and difference in elevation to be overcome 2,940 feet, whence there is a steady drop for a distance of 100 miles, with a maximum grade of 116 feet per mile. From Wadsworth to Rocklin, 170 miles, the line is very crooked, the maximum curve being 10 degrees.

About midway between Sacramento and Oakland Wharf, trains are ferried over the Straits of Carquinez—one mile across—and of course this materially retards the making of average fast time between those two points, it usually requiring twenty minutes to take a train across.

The Railroad Men Who Directed.

As to the personnel of those who had to do with the success of the trip, the following officials might be mentioned: United Railroad of New Jersey, F. Walcott Jackson, general superintendent, now de-

ceased; Pennsylvania Railroad, G. Clinton Gardner, general superintendent, now deceased; Robert Pitcairn, superintendent at Pittsburgh, now deceased; and James McCrea, superintendent at Harrisburg, now president of the road. Mr. McCrea, it might be said in passing, was at that time only twenty-eight years of age; but we were then not far from the Civil War period, when colonels aged twenty-five and generals aged thirty showed they could bear responsibilities.

On the Pittsburgh, Fort Wayne and Chicago, J. D. Layng was general manager. He later became identified with the West Shore, and died but a short time ago. Marvin Hughitt, now president of the Chicago and Northwestern, was then general superintendent of that road. The Union Pacific division superintendents were as follows: P. J. Nichols and S. T. Shankland, Laramie, Wyoming; O. H. Earle, Evanston, and J. T. Clark, Cheyenne, Wyoming. Mr. Nichols became general superintendent of the Nebraska division in 1896.

On the Central Pacific, A. N. Towne was general superintendent; John Corning, assistant general superintendent; and division superintendents were as follows: R. H. Platt, Ogden; G. W. Codington, Carlin; Frank Free, Wadsworth; J. A. Fillmore, Sacramento; and E. C. Fellows, Oakland. Messrs. Fillmore and Towne rose to more prominent positions in the service of the Southern Pacific, but the others do not appear in any recent record of railroad officials.

Turning from consideration of the operating men of that day to those of the present time, it is indeed notable to what an extent the active men of the present time were either just commencing their railroad careers or were mere youngsters at school

William Lee Park, now general superintendent of the Union Pacific, was a seventeen-year-old brakeman on that road, and J. O. Brinkerhoff, a division superintendent, was a conductor. Of the present Southern Pacific operating staff, practically only H. J. Small has official railroad experience dating back to the Centennial year. Mr. Small, now general superintendent of motive power, was then general foreman for the International and Great Northern, in Texas, being a young man of twenty-seven years.

The Pennsylvania staff is notably permanent, but even on this system we find that but four of the Fort Wayne men can date back thirty-three years or more—J. J. Turner, now third vice-president in charge of the transportation department, was a telegraph operator, aged twenty-three; George L. Peck, general manager, was a train despatcher, a mere boy of eighteen; Charles Watts, general superintendent of passenger transportation, was a passenger trainmaster at Logansport, Indiana; and A. M. Schoyer, general superintendent, was, at the time, a telegraph operator.

As we consider the records of to-day, let us, at the same time, give full credit to the railroad men of 1876.

The next Old-Timer Tale will tell of the famous locomotive, 999, which held the record for speed in her day.

A CLAIM FOR DAMAGES.

——, Kan., Oct. 5, 1909.

MR. CLAIM AGENT:

i kindly ast you for demege for burning a strow stack of twenty akers of weat wich i ast 10 dolers, it was burnt the 30 day of September by a frait trane and I worked with my to boys all after none to save my corn and i have sustaned so much damish that i sink i am justified to som pay and today, Oct. 5 the west lokle kild 2 pigs for me wich wold wad 50 pons a pese and i all so clame pay for them that wes worth 4 dolers a pese wenever somsing gits out it is one the track this time a year wen thay ar holen weat som of the cars leak and skater weat and even all along the track and it is all the time kilen chickens and terkes and they ar wert money so i wold like for younes to fense your rode with chicken wies i sink the law requires it the track cuts throw my farm and my bildens ar prity close to the track i hope you will look at it rite and give me clere sattesfachen i spoke to Keley, the sechen bose and he said he wold sem in a load the straw the hogs jist got kild today so plese let me know by retern male excuse bad spelen bot give me satesfachen. your friend, ——— ———

—Rock Island Employes' Magazine.

FROM SUNNY ITALY.

BY A. V. HOWELL.

Written for "The Railroad Man's Magazine."

DISSA poor Ital, eet worka hard to feexa da railrod tracka,
To maak da mooch da fine condish by da pick go cracka da cracka.
No time for to play wid da monk, worka hard for dollara ten,
An' after feex da railrod up—oh, gee! starta over again.

When dees was in da old countree eet worka like decenta man,
But here I maaka da work like horse or getta fire quick as can.
Eet starta jus' when sun coom up an' worka till eet 'bout go down,
When dees get free ride wid oder Ital to fine boxa car by town.

Dis worka may be tena twelve year, an' surea I do it right,
Helpa pusha in da ties an' screwa da fastnin' tight.
I sticka righta to da biz of worka on railroda track,
An' savea da moocha 'Mer'can doll to Sunny It go back.

Not dat eet do not deesa place like; me likea eet mooch like fun,
Eet besta place of anywhere to makea lots o' da mon.
Eet gooda place to sell banan' an' havea da organa grind,
Da's why so menna fine Ital da old countree leave behind.

Eet maaka da heart in dees one ache ver' mooch when eet coom to send
Eetselfa back to Sunny It—here I have so manya friend.
But dees can't work here alla da time! That givea me the fit!
Me sava every cent eet can, then go home to Sunny It.

When dees go back eet buya gran' place, whata you calla da peach.
Alla da dollar dees one have then, why dees willa be so reech!
But no matter howa big dees get, widda horses, cows, an' lan',
Eet never forgetta 'Merica, where eet was great railroda man.

IN THE GRIP.

BY C. W. BEELS.

Love Leads John Wentworth Over a Thorny Path Until He Encounters a Big Black Bear.

IT was a trying day for John Wentworth, the new school principal in the little mountain town beyond the Rockies. A big, unruly, nineteen-year-old youth, who had been sent up for punishment by the lady teacher of the primary school, had been soundly rawhided and sent home by him. A few minutes had elapsed since the incident, and the school was recovering its normal air, when two harsh, irregular knocks on the door made every pupil glance toward it with a look of expectancy.

"Come in," said the principal, as he continued the rehearsal of his class in physiology. No one entered, and the knocks were repeated in a way that made the door fairly shake on its hinges. With an air of impatience, he walked to the door and opened it. Tall, rugged, and angry, the father of the boy whom he had whipped stood on the threshold with his right hand on his hip-pocket.

"Why haf you mine boy whipped?" he growled.

"Continue your studies and preserve order until I return," said the principal to his pupils as he went out and closed the door after him.

"This is neither the time nor the way to see me on this matter, Mr. Rhiner," he began with dignity, eying his visitor fearlessly. "In half an hour I shall be at your service," he continued as he walked through the lobby toward the entrance, followed by Rhiner.

"I must haf it now explained, and no more time-losing," was the reply, with a nervous move of the hand in the hip-pocket.

Wentworth, who coolly watched every move of the enraged man, stopped abruptly, thus bringing him within easy reach.

"Take your hand from your pocket, Mr. Rhiner, I warn you," he said sharply.

"I vill!" was the snapping rejoinder.

Wentworth's left shot out quickly, and Rhiner's right arm fell helpless by his side, while an old single-barreled percussion pistol clattered on the floor.

Picking it up with a quick movement, Wentworth surveyed his would-be slayer with a gaze that had in it both reproach and compassion, but not a sign of resentment. The face of the other fell as it became tinged with a flush of shame.

"Come back in half an hour, Mr. Rhiner," said Wentworth; "it is of the utmost importance that your son's career should not be endangered by any misunderstanding between us at this time. Take this with you," he added, handing the old-fashioned weapon to the astonished man; "we shall talk the matter over just as if nothing had happened."

School was dismissed, and Rhiner, true to his better nature, had a heart-to-heart talk with the principal. On learning that his boy, William, had lit a cigarette and smoked it in the schoolroom in the presence of the teacher and her eighty pupils, that he had deliberately puffed a cloud of smoke in her eyes when she attempted to take it away from him, that he was not as far advanced in his studies as children of ten and twelve years old, and that he was absolutely without desire to do better, the wrath of the father knew no bounds.

Indeed, it was only by strong persuasion that Wentworth prevented him from returning home forthwith to administer a sound horsewhipping to his son. When

it was understood that the principal had decided on taking William into his own schoolroom, the face of the elder Rhiner fairly beamed with satisfaction.

"Your own schoolroom! Ach, I thank you, Meesther Ventvorth. That iss it—your own schoolroom! Lash der books in at school, und I vill lash der bad out at home! A goot joke on Villiam!"

He caught one of the principal's hands in both of his as he delivered himself of these abrupt sentences, and laughed till the tears ran down his cheeks as he pictured to himself the dilemma of the scapegrace William.

It was about three weeks before this incident that John Wentworth had arrived in the town of Oval, so-called from the shape of the mountain basin in which it lay. That was a critical time in the school history of the place, as the former principal had resigned in sheer despair in the middle of the spring term because of his failure to preserve order. As there were young men of twenty and young women as old as twenty-five among the pupils, discipline was not an easy matter.

Wentworth, who graduated from an Eastern university, was looking for a suitable town in which to settle and practise law, saw in the position an opportunity to replenish his funds, which were running low. He had paid his expenses at college with money earned by teaching, and so had a special fitness for the position.

He was about twenty-five years old, of compact frame, muscular, and athletic. His face showed keen intelligence, strong will power, and determination.

When he appeared before the school trustees of Oval as a candidate, they eyed him approvingly before they examined his testimonials, and when they read a few of the latter they were highly pleased. It was not, however, until they read a passage referring to his prowess as a member of the football eleven, in the testimonial from the president of his college, that they nudged one another with positive delight, and flashed to one another in unmistakable eye language, "He's just our man."

Half an hour after the last word was spoken to the elder Rhiner, Wentworth was climbing the steep hillside overlooking the town. Clad in sweater and heavy walking shoes, he had already become a familiar figure to many who lived miles from Oval. At the little cabins of the miners, set in an opening in the forest or perched high up at the head of a gulch thousands of feet from the depths below, he loved to call. His cheery manner and unaffected ways won a welcome that was as refreshing to him as the mountain air.

He took off his cap reverently when he gained the summit. Stretching far away, ridge after ridge rose until the last one faded in cloud and sky—looking like great inert billows on a vast ocean. Then a race down hill, on the other side, jumping over fallen trees and mountain streams as they came in his path.

A deer sprang out of a thicket near him, looked with startled gaze—then dashed through the chaparral. Then the sound of a man's voice fell on his ears. Increasing his pace, he soon came in sight of the road leading to Blankton, which wound round the hill in corkscrew fashion to overcome the heavy grade.

He heard the voice crying, "Whoa! Whoa! Whoa!" Then, after a short interval, in alarmed tones: "Look out, Trixey; Gip will be on top of you! Whoa there, Gip!"

The road directly in front was hidden by chaparral; and while Wentworth was forcing his way through it, he heard the unknown exclaim:

"Dang the tarnation critter that jumped into this mess! If I could only git down from here! But I dassent leave the brake. Whoa, Jess!"

When Wentworth came on the scene, the odd-looking vehicle—a cross between a stage-coach and a circus wagon—drawn by two horses, was in imminent danger of toppling over into the ravine. The off horse was lying on the edge of the slope, and, in his efforts to rise, he was dragging his mate nearer the danger-line.

A girl was at the head of the fallen animal, endeavoring to release him from the harness, while a middle-aged woman stood looking on in helpless fear. In the driver's seat sat a bronzed, typical Westerner, holding the brake fast with his leg, while he pulled the rein on the near animal of the team with a death-grip.

In an instant Wentworth was beside the fallen horse, and, with a few dexterous slashes from his knife, cut him clear of the harness. Then, by a skilful and

muscular effort, he succeeded in assisting the animal to the roadway.

"Good boy! Well done, I swan! I cudn't 'a' done it better'n that myself, stranger," was the greeting of the driver as he shook Wentworth's hand warmly. "I thank ye kindly; for if ye hadn't come when ye did, wagon, plates, and all would 'a' been at the bottom of the gulch.

"This is my wife and daughter," he said by way of introduction. "An' if you'll excuse me, I'll jest go an' try to splice things up a bit."

"We are on our way to Oval," explained the elder woman, after she and her daughter had in turn thanked Wentworth.

"Yes, and should have been obliged to walk the remainder of the way had it not been for your timely service," added the younger. "Besides, we should have lost our valuable art gallery," she added playfully.

Then, seeing the mystified look on Wentworth's face, she enlightened him by telling that they were itinerant photographers on their spring tour of the mining region, with much of their worldly goods in the wagon.

"Papa was thinking more about the loss of his plates and other effects than of himself or of us when you caught us in our predicament," she concluded with a humorously wry countenance.

"I fear that I don't merit your thanks after all," said Wentworth to the young lady, who was now his only listener, her mother having gone to assist in mending the broken traces. "If I guess aright, the horses were frightened by a deer that I unfortunately startled."

"Yes, the deer was the cause of it all. But I don't know which was the more frightened—the deer or the horses. He lit in the center of the road a few yards ahead of them, and, after mama and I scrambled out of the wagon, I remember that he still stood trembling, as if rooted to the spot. When I rushed to the head of Jess, he dashed down the road like a streak."

"Poor fellow, I am thankful, for your sakes, that he wrought no worse mischief. There is only one thing that I have against him: his lack of good taste in fleeing at sight of you."

The young lady evidently thought that the stranger was presuming too much in paying the compliment on such slight acquaintance, for she made no direct reply.

"Let us see how papa is getting on with the harness?" she said in a matter-of-fact way as she walked toward the wagon.

Wentworth felt the rebuff, but did not show it. He quickly replied: "It looks as if he were ready to start again." Then he said earnestly: "I must express my admiration of the coolness you displayed at the head of that horse, Jess—Miss—" Here he stopped for the expected information.

"Our name is Thorpe. Excuse our rough Western ways for overlooking so necessary an item of introduction." She spoke with perceptibly heightened color, ignoring the tribute paid to her courage.

But she had met a man who was a master of calmness, and in her heart she confessed much to herself as he replied with grace and candor:

"Our introduction—at the head of that kicking, maddened horse—I shall always remember, Miss Thorpe. The name, in this case, was immaterial. Without the name of Thorpe, I should always have remembered you as a girl of nerve and coolness in danger. My name is Wentworth. I am school-principal at Oval."

They had reached the wagon by this time.

"Papa, this gentleman is Mr. Wentworth, school-principal at Oval," she said.

"Well, if you can handle the youngsters as well as you do a horse, hang me if they won't turn out to be wonders."

"Thank Heaven, I have no desperate cases, Mr. Thorpe," he laughingly replied. "But, now that you are ready for the road again, I shall say good afternoon." Here he assisted the ladies into the vehicle. "I am out for my daily spin," he explained as Thorpe offered him a seat in front, beside himself.

"Well, Oval ain't a big place, and you'll easily find us, Mr. Wentworth," he said as he mounted the box.

"Do not forget to call on us," called out Mrs. Thorpe, as they drove off.

"Never a word from Trixey," he said to himself, as he left the highway to plunge once more into his beloved forests. She had smiled at him as she held her dainty head out of the window and

echoed his own "good afternoon," but his heart had a little gnawing pain in it because she had not joined in her mother's invitation.

The wild beauty of the mountain scenery appealed in vain to Wentworth the remainder of that afternoon. Everywhere he looked, he seemed to see the face of the girl whom he had met so strangely. The soft hazel eyes, the rich auburn hair, the arch look followed by the bewitching smile, the saucy, half-defiant poise of the head—all came back to him like the incidents of a delightful dream.

"Trixey — Trixey," he repeated to himself. "An unworthy name for so fair an owner. Must be an outlandish abbreviation of Beatrice, I suppose. Trixey by any other name could look no sweeter. Bah! I really must be getting sentimental," he said as he abruptly ended the soliloquy.

Next day, his quick-eyed pupils noticed that he indulged in unusual fits of abstraction that were followed immediately by enthusiastic work that stirred them all to better effort. Even the dullard, William Rhiner, who required the special attention of the principal—as he formed a class in himself—was roused to use his faculties, and lost all sense of time by the interest he took in the tasks set him. Indeed, he went home from school that day as if he were in a new world — he had found a pleasure in study, and the principal had praised his work!

It was not until a week or two had elapsed that Wentworth called on the Thorpes. He knew that they had rented a vacant building, which they used both as art gallery and dwelling, and that they were kept busy attending to a business that grew larger every day.

It was in the afternoon, just after school dismissed, and Mr. Thorpe at the time was busy in the "dark" room with his negatives, while Mrs. Thorpe was engaged in household duties.

Inquiring for Miss Thorpe, he was directed to a room where that young lady was deftly handling prints in shallow, flat trays. She received him with a warmth of welcome that atoned, he thought, for her coldness at their first meeting, and expressed her regret at being obliged to divide her attention between him and her work.

He noticed with a feeling akin to sorrow that the tips of the nimble, slender fingers were stained with acid; but not a thought did she bestow on them, as she rinsed this print here or examined that proof there, all the while keeping up a running conversation in which good sense and humor prevailed.

"I should like to become your pupil," he ventured during a lull occasioned by her nimble examination of a fresh proof.

"I have no doubt you would be an apt one, if the teacher would prove competent," she replied.

"There is no doubt whatever on the latter point, Miss Thorpe. The incentive created by having you for a teacher would be sufficient alone to make the pupil a success."

"Do pupils usually pay compliments to their teacher?" she answered with gentle irony.

"They would, if they felt the same regard for their teacher that I would have for mine," he said evasively.

"Which means that the pupil would establish rules for himself. I fear I should scarcely prove equal to the task of maintaining discipline," and she laughed, while she looked at him with a peculiar smile

"The teacher's word would be law," was the answer in a tone of humility.

"That would follow only when the teacher was firm. Don't you think this is a pretty baby?" she quickly asked by way of diversion, as she held toward him a print ready for mounting.

"Yes, just like his father," he answered absent-mindedly, and her merry laughter was increased by his own as the ludicrousness of his reply struck him.

"By the way, Miss Thorpe, there will be a 'sheet and pillow-case ball' at Mrs. Randall's next week, and she sends by me an invitation to Mr. and Mrs. Thorpe and you. I hope you will be able to come," he said eagerly. "Mrs. Randall lives in Oval, about five miles from here, and the drive will be splendid, as we have beautiful moonlight nights."

"This is so kind of Mrs. Randall—and of you," she said simply, with a lingering tone on the "you" that made his heart beat faster. "I shall speak to papa and mama, and have no doubt we can arrange to go."

"Your own sheets and pillow-cases, you know. I have never been at a ball of this kind, and expect it will be jolly."

"I have never been at one, either," she replied, "but some of my friends have, and they say it is just immense. The dancers wear their sheets and cases for a short time only, and then appear in usual dress."

"Well, I shall take it for granted that you will come, and shall arrange ahead for a good driving team. I should like to stay longer, but I feel that I am interfering with your work."

"Please let me speak for myself, Mr. Wentworth," she answered with a pretty toss of the head. "You have *not* interfered with my work. I never allow any one to do so. Consider yourself not guilty."

"Thanks. Then I may come again with an easier mind?"

"With a perfectly easy mind on that score. I am afraid you will soon grow tired of such dull company."

"You shall be the judge," was his reply as he pressed her hand before leaving.

Trixey often thought of the young man, and honestly liked him. She had never analyzed her feelings toward him. In her heart she stood a little in awe of him, although she would never admit it. There was a hidden reserve force about him that somehow impelled her to treat him differently from any other man she had met.

The Randall ball came off, and was pronounced the most successful social event that Oval had seen for a long time.

Wentworth found himself in a heaven of delight as he drove Miss Thorpe to the Randall residence, Mr. and Mrs. Thorpe having decided not to go at the last moment. If the young lady had only guessed at Wentworth's regard for her before the drive began, she was made fully aware of the depth and intensity of his love before the journey ended.

The glorious moonlight, the giant trees that threw their soft shadows now and then across the face of the woman he loved, the great sigh of the mountain breeze as it swept up from the deep gulches and played with stray tresses of her hair, the overpowering sense of loneliness without her to fill the void in his heart and life—all were zealous ministers in urging him to make a declaration of the love that made his unbending will as subservient as that of a child's.

The horses were walking slowly up the heavy slope that led to the brow of Little Summit when he changed the light, commonplace conversation with a suddenness that almost startled his companion.

"Miss Thorpe, were you ever in sight of a great happiness—so close that you could almost grasp it—and yet felt that it was so far away you might never gain it?" he asked.

"I cannot say that I have," she answered musingly, not divining his meaning. "Any great happiness that I have looked forward to has generally been realized. Seeing papa and mama again, after a year's separation, has been the greatest that I have known."

"The saddest thing about the happiness I speak of, Miss Thorpe, is that the hand which alone can bestow it is sometimes powerless to give it."

"What an enigma, Mr. Wentworth! The hand able to bestow, and yet powerless!"

"Yes; and the owner of the hand in this case is the dearest, best, and fairest on earth to him who humbly craves the happiness."

As he spoke, his eyes glowed, and his face grew pale and showed his strong emotion. Her eyes met his, and all was revealed to her in an instant. Then a frightened look stole over her face, and she breathed nervously as she leaned back.

"I know now what you mean, Mr. Wentworth," she said slowly. "I am sorry. I never thought that you cared —that way. Please do not say any more. It hurts me."

He could see that the drooping lashes were moist with tears.

"And I am a brute, dear, to think only of myself. Rather than have you suffer a single pang on my account, I am willing to bear the pain alone. I have loved you ever since I first met you, and could bear it no longer. And I shall just keep on loving, with the hope that some day—some day—"

The conversation turned into lighter channels so skilfully that before they drove up to the Randall farmhouse he had succeeded, in a great measure, in restoring their former relations.

There was, however, a perceptible re-

serve in her manner that did not escape his keen eyes, and he fondly hoped that the sign was in his favor and not against him.

When Wentworth and Miss Thorpe arrived, they found the farmhouse turned into a series of dressing-rooms. Numerous guests awaited their turn to don their simple garb of white, while a constant stream of white-robed figures passed from the house to the large barn which had been turned into a ballroom. Mrs. Randall and a crowd of merry girls at once seized Miss Thorpe and bore her away, while Wentworth was taken in hand by several of his friends from Oval, who had found the kitchen an excellent retreat in which to obliterate traces of their identity.

There he saw William Rhiner and others of his growing pupils, for each of whom he had a pleasant greeting. To William, especially, he showed marked cordiality, and that individual looked as if he felt proud of the distinction.

Word was passed that the opening dance was about to begin, and off they trooped to the barn. As he passed through the door, Wentworth felt a hand touch him on the back twice, first between the shoulders downward, and then across, but he attached no meaning to the act other than a frolic of one of the merrymakers.

Each masquerader had cut loose holes for eyes and mouth in the pillow-cases, and the scene in the spacious barn had a weird, unearthly aspect to Wentworth's eyes. The light from a row of lamps fixed high on the walls shed a ghostly glare on the figures. The muffled laughter was the only sound that broke the almost oppressive silence. The stalking fantoms expressed themselves to one another wholly in pantomime, evidently fearing that a tone would betray them. The latter would mean forfeiting the evening's pleasure, in the opinion of a masker.

Then the band—two horns, two violins, and a bass viol—struck up, and the stentorian voice of the caller rang through the spacious building, "Take your partners for the lancers!"

Within half a minute the bewildering mass of over two hundred figures had paired off and were gliding to the music.

Loud above the noise made by the band, the cries of the caller guided many who were unfamiliar with the dance, and they were especially enthusiastic when he yelled, "Swing your partners!"

Several times during the masked period of the ball Wentworth thought he had singled out his sweetheart; but always detected some movement or action that showed he was mistaken. Then he gave up the task as hopeless, and entered into the spirit of the occasion with a zest that was infectious.

Just before the last dance was called, he was approached by two figures—they were girls, he was sure—who beckoned him to follow them. As he did so, a masked figure swiftly passed him and whispered so that he could hear distinctly: "Be careful and don't sit down."

This appeared very mysterious to Wentworth, who continued to follow the pair to a corner of the room, where they sat down, one on each side, leaving the angle vacant for him. They motioned him to the seat, and he was about to sit down when the whispered warning flashed on him. He declined the honor with pantomimic gesture. He noticed that an unusual number of figures were collected in the vicinity, all standing except the two who were importuning him to sit down.

At this juncture a tall figure came up from a distant part of the room, and, noticing what he thought to be ungallant conduct on the part of Wentworth, took the vacant seat with a bound.

The barn resounded with the wildest and most surprised yell ever emitted from mortal throat. The victim found himself in a monster tub of ice-cold water! What looked to be a seat was a trap, in the form of a large tubful of water, thin boards being laid on top and the whole covered with a horse-blanket.

The victim of this joke turned out to be a Chicago drummer, who had been invited to the ball by a friend of Mrs. Randall, a business man in Oval.

Wentworth felt indignant that he should have been selected for the goat, and was at a loss, at first, to account for the ease with which he had been picked out in the crowd of maskers.

Then he recalled the peculiar sensation experienced as he passed into the building, and at once concluded that the sheet worn by him had been marked by some

one connected with the plot. Even then he laughed to himself at the discomfiture of the jokers, and engaged in the final mask number on the program with his former good humor.

At its close, after he had conducted his partner to a seat, he immediately left the barn for the kitchen, to satisfy himself by an inspection of the sheet. He removed it and the pillow-case on his way, carrying them over his arm.

A hasty examination in the hallway showed that the sheet was marked with a large black cross. He heard an angry voice in the kitchen say:

"You spoiled the fun, you cur! Take that!" Then the sound of a smacking blow, followed by a cry of rage.

As he gained the threshold of the kitchen, he saw a crowd of young men, most of them residents of the valley, standing around William Rhiner and a big, burly young farmer. The latter was pale with anger, and the former held his face in his hands as if in pain.

"What is the matter, William?" Wentworth asked sharply.

"The big coward hit me. He landed on me hard!"

"Yes, and I'll hit you again," said the bully, as he rushed to make good his threat. But Wentworth was between them in an instant.

"Not while I am here," he said quietly and firmly.

"Get out of my way or I'll spoil yer face!" And he rushed with bull force at Wentworth, who quickly sidestepped and tripped him up.

"Remember, we are guests of the owner of this house. There must be no disturbance here," Wentworth said, as the other regained his feet.

"Then we'll have it out in the field, you miserable Eastern carpetbagger! I'll teach you for puttin' in yer nose where yer not ast."

"You are resolved on that?" was the reply.

"If yer don't, I'll follow yer to the town and thrash you before yer sleep."

"I am sorry to do it, but I must save you the trip to town," Wentworth replied. "Not a word to the women about this," he requested, as he went out at the heels of his challenger, followed by all in the room.

The battle was short and bloodless.

The young farmer was as strong as an ox, but ignorant of the rudiments of self-defense. Wentworth had been champion heavy-weight of his college. The larger man rushed and was met by a stiff left jab on the chin that stopped him and jarred him to the toes.

Wentworth feinted for his adversary's eye with his left hand. His antagonist threw both hands high up to ward off the expected blow, and the teacher's right delivered with great force a solar plexus. The result furnished Wentworth and several others ten minutes of hard labor before the bully was restored to consciousness.

Returning to the barn Wentworth found that refreshments were being served, and that no knowledge of the unpleasant occurrence in which he had figured was yet in the possession of the guests. He claimed the honor of a waltz with his hostess, and then sought Miss Thorpe, whom he found surrounded by a knot of admirers.

To his mortification, she laughingly acknowledged that all the "round" dances had been promised to others, but that the first "square" dance would be his. Just then the caller announced a quadrille, and Wentworth led her off to their place, his face showing happiness at being granted even this favor, while his heart reproached her for what to him appeared unkindness, if not indifference.

She listened with much amusement as he told of his fruitless efforts to pick her out from the crowd of maskers, and his hopes would have risen a hundred-fold could he have known that her heart throbbed quicker when she learned that, amid all the gaiety, he had not forgotten her.

It was the only opportunity he had during the evening to be near her, and he was not at all happy in consequence, but he did not overlook a small feat in diplomacy that he believed would meet with her approval. He invited two young ladies of Oval to join her and himself on the homeward trip.

This was the most enjoyable feature of the evening to him. Miss Thorpe, whether or not to show her appreciation of his thoughtfulness, abandoned herself to the enjoyment of the hour. Rare snatches

of song, rollicking choruses in which all joined, laughter and a rapid fire of mirthful small talk, ended the journey all too soon.

When he bade her good-night, he took her hand in both of his. Then yielding to an overmastering impulse, he kissed her on the mouth.

"Good night, dearest," he said, with the boldness of honest love, and was gone.

Trixey Thorpe was too much surprised to say anything.

She closed the door and went to her room. Then she lit the lamp and removed her hat and wrap in a tempest of emotion. Her growing indignation finally found vent in the murmured exclamation:

"How dare he! How dare he!"

After a while she prepared for bed. Just before putting out the light, she took up a small mirror and surveyed her face in it. She suddenly touched the mirror with her lips; then kissed the spot passionately; turned out the light, and got into bed.

Wentworth, whose mind was in a fever of hope and fear over the parting kiss of the night before, made his customary afternoon call on the Thorpes the following day. Mrs. Thorpe informed him that Trixey had gone out to make a business call on one of their patrons. The news made him heartsick. Again, the second day afterward, when he presented himself at the house, he was given a similar explanation, only that it was accompanied by regrets from Mrs. Thorpe that her daughter should have been called away.

He was now convinced that Miss Thorpe avoided him, and he discontinued his visits altogether, seeking diversion from the thoughts that consumed him by taking longer trips than ever into the woods and mountains. The solitude of these increased his woes, and he tried study instead.

Several times he had been on the verge of writing and imploring her pardon for the liberty he had taken; but his pride, and the failing that the man who truly loves a woman can never insult her, forbade him. Moreover, his loyalty to her was unshaken, and hope—though it was hope deferred, still pictured a rift in the clouds.

Several weeks had elapsed, when he received an invitation to join a berrying party that was to make the expedition into the mountains, twelve miles away. The day selected was a school holiday, and he immediately accepted. He learned that Miss Thorpe was to be one of the party.

He knew, by hearsay, that the Thorpes would leave Oval in a few days, and he rejoiced that he was given this opportunity of seeing her once more before bidding her a formal good-by.

He was not fortunate enough to be one of those who were assigned to the coaching wagon in which she rode, but he was in the one immediately behind. She smiled kindly at him, he thought, as she returned his morning salutation, and once or twice on the journey, when she turned to answer a remark made by one of his fellow passengers, she had lowered her eyes on encountering his.

On arriving at the destination, luncheon was spread, and Wentworth contrived to include Miss Thorpe among the ladies on whom he waited. His manner was as cool and buoyant as ever.

The repast finished, the members of the party scattered in little detachments. Wentworth attached himself to a party of five made up by Miss Thorpe, two other ladies, a younger man, and himself.

There were several berry-patches in the vicinity, and they chose one that was high up on the slope, where the surface was rugged. Berrying is a pastime in which it is difficult to keep together for any length of time, especially when each is trying to outdo his neighbor in the exploration of new treasures.

Only once, after they had reached the zone of individual effort, did Wentworth come within talking distance of Miss Thorpe, and then when he attempted to diminish that distance by a forced roundabout route, she was nowhere in sight.

He heard the voices of the others below him, but failed to find the object of his search. He did not trouble himself any further in berrying; he was intent on finding this girl with the unimpressionable heart, and once more trying to win her.

Her course led him higher up the mountain and, gaining the crest of a

high cliff, he eagerly looked around in the hope of catching a glimpse of her. Nothing met his gaze but a waving sea of shrubs, and clumps of undergrowth, with here and there a giant fir or pine. He felt that she was eluding him with a purpose. He was all the more determined to find her.

Instinctively he kept working his way toward the summit, although his judgment questioned the probability of a woman attempting the rigors of a climb over the broken and difficult surface. "But she is inscrutable to me in many ways and why not in this?" he reasoned. So he climbed and zigzagged and wound his way until he reached a point which showed him that his path was leading him into a *cul-de-sac*. A great wall of rock rising sheer one hundred feet, barred all progress in front, while the sides sloped at a gradient that defied foothold.

He was inwardly blaming himself for silencing his better judgment in the selection of a course, when he was startled into violent action by the piercing scream of a woman. It came from the blind gorge, his trained ear told him, and he started for that point at a pace that showed no care for bones.

He had jumped, scrambled, and rolled about half the distance, when he heard the rushing of some creature through the low brush, as it approached him.

The next moment a huge black bear appeared speeding toward him in a frenzy of fear. The animal came right in his path, and Wentworth hastily climbed a ledge of rock near by, knowing that this species will not attack a man, if free course is given him.

The bear rushed past in increasing panic, and he continued his race in the opposite direction.

Breathless, he reached a point where he could see Miss Thorpe. Her dress had caught in a bramble. She could not get herself free. She saw the bear coming at her, and in her terrible fright, she picked up a stick that was at her feet and began to flourish it at the animal.

The bear thought that the girl was trying to block his progress. As he approached her, he rose on his hind legs and emitted a growl that pierced Wentworth's heart.

Wentworth quickly came up behind.

The bear stood poised. He seemed to be calculating, with his animal instinct, the real motive of the frightened girl. He approached her with more speed than seemed possible in such a ponderous animal. As she fainted, he caught her in his mighty fore legs. Wentworth was now in front of the beast. A well directed blow with a sharp stone either frightened or stunned him. He dropped his beautiful victim and tore on into the underbrush.

The girl dropped in a heap. Her life seemed to have left her. Only the faintest quiver of her lips showed that the breath was still in her body. Her lips turned ashen.

Wentworth leaned over her. He took her in his arms. He called her name—he called it again.

She made no reply.

Would she never come back to him? There was a tremor of the body; the ashy pallor of the face was changing slowly to the most delicate pink; the quiver of the delicate nostrils could barely be detected as the breath of life was taken in; the transparent eyelids moved tremulously; the parted lips were ripening with a ruby glow; every sign that harbingered her coming back to him was hungrily seized upon by the eyes of the man who loved her better than his life.

She moaned and he pressed her closer to his heart. The eyelids were raised with an effort; then closed again, as if their burden were too heavy. There was a movement of the arms, and again the eyes opened. There was intelligence in them this time, and they rested on John Wentworth's face at first in wonderment; then, with a winning tenderness, she said with an effort:

"I am so glad you found me—John."

"Trixey, dearest, I must never, never lose you again. It would kill me!" The tension of the arms that held her was increased.

"Never again, John, dear. Never again," she said softly, with a sigh of happy resignation.

Then a pair of arms were twined around his neck hesitatingly, as though the venture were fraught with uncertainty.

The kiss that John Wentworth stole was rapturously seized again by the rightful owner.

Recent Railroad Patents.

BY FORREST G. SMITH.

The Vast Network of Railroad Efficiency and Railroad Equipment Has Been Built up by Eighty Years of Such Efforts as These.

We have decided to slightly change the form of our monthly article on Railroad Patents, and to add another feature. For a long time we have been receiving queries from readers seeking advice about patent procedure, and heretofore Mr. Smith has answered these queries by mail. In future we shall run these queries and the answers to them as an appendix to the monthly article. Every reader who has a problem of this nature is welcome to the services of the department, and a letter addressed to Mr. Forrest G. Smith, or to the editor, will receive attention as early as possible.

NOISELESS CROSSING.—Noiseless railway crossings are as a rule rather complicated structures, but a decidedly simple crossing of this class is disclosed in a patent, No. 942,740, December 7, 1909, issued to William C. Peters, of Harrisburg, Pennsylvania. Of course the only crossing which can really be considered as noiseless is one in which a continuous or unbroken rail surface is provided to the wheels of a train passing over either track of the crossing.

Mr. Peters has solved the problem of providing such a rail surface in a crossing, and has embodied his ideas in such a simple device that it is a wonder that others have not thought of the same thing before.

His device is something on the order of the ordinary switch, inasmuch as it embodies a short section of rail, which is to be swung from side to side in the frog of the crossing, so as to aline with one rail or another. This rail section is automatically actuated by the pressure of the car-wheels as they approach the crossing, regardless of the direction in which the car is traveling, and is so perfect in its action that the only perceptible sound of car-wheels passing over it is the usual sound made as they pass over the meeting ends of two rails.

REFRIGERATION.—The problem of preserving fruits and vegetables when shipped for a long distance is a serious one, and cities distant from our fruit-growing States can, at best, have over-ripened or home fruit and vegetables. The quantity of ice necessary to transport a train-load of fruit so that it may reach the distant consumer in proper condition is enormous, as compared to the actual cost of the fruit itself.

To economize in the use of ice and other refrigerants, it has been proposed to precool the cars after they have been packed. This is usually done by withdrawing air from one end of the car and replacing it by air at an appropriate temperature introduced at the other end of the car.

This system is objectionable in that it does not replace all of the air in the car promptly, and also because the change of temperature effected is not gradual or uniform throughout the car. Goods of this character are

injured by sudden reduction in temperature and, in a car-load, are naturally unevenly subjected to the change.

To overcome the objectionable features of such a system of precooling, Arthur Faget, of San Francisco, California, has secured a patent, No. 941,443, November 30, 1909. His method, while similar in general principles, contemplates that air be not only introduced at points distant from that at which it is withdrawn, but at various other points more or less nearer the point of exhaust, and that the pipes for admitting the cooling air be directed at various angles so as to equally treat the cargo.

By this method, the entire car-load of goods, upon arriving at its destination, will have an even market value, as all portions of it will be in the same condition.

AUTOMATIC STOP.—A device for automatically stopping trains, when they are run past a danger signal, which differs materially from those heretofore considered, is disclosed in patent No. 942,189, December 7, 1909, issued to William J. Soseene, of Emeryville, Cal. Ordinarily such stopping systems are so arranged that air-brake setting devices within the engine cab are actuated by a trip arranged beside the track.

Locating the trip in this position, however, renders it liable to be disturbed or tampered with. Furthermore, in such systems, as previously constructed, the air-brakes have been applied not only fully but suddenly, which is decidedly disadvantageous.

In the system disclosed by Mr. Soseene, the trip for actuating the mechanism on the engine is in the nature of an arm which is mounted, out of reach, upon the usual semaphore pole and is connected directly with the semaphore. Further, the air-brake setting means upon the engine is so arranged that the brakes will be gradually applied.

DOUBLE CONTROLLER.—It has long been customary to attach to a "motor-car" a "trailer" that is not equipped with motors. In this arrangement, the motor-car must be equipped with motors of sufficient power or number to propel both cars, thus more or less unfitting the motor-car for use as a single unit.

In modern systems, however, conditions arise that render it advantageous to operate cars as either single or double units. For example, during the "rush" hours, or in times of great temporary increase of passenger traffic, it becomes necessary to substantially increase the carrying capacity, although it may not be possible to correspondingly increase the working force.

This result could be secured if two ordinary motor-cars could be coupled together and operated from a single controller. This is exactly what is contemplated in patent No. 941,391, November 30, 1909, issued to Arthur B. Stitzer, of Philadelphia, Pennsylvania.

In this system of control, each of the two cars to be coupled is provided with a specially constructed controller, either at one end or at both ends. The controllers are so connected in the same circuit that any one of them may be used to control the motors of both cars.

As a result, the propelling force applied to the cars may be varied at the will of the motorman according to traffic conditions. Another advantage of this system lies in the fact that should one of the motors burn out, another may be thrown into use instantly without the necessity of waiting for aid from another car, as is now customary.

A NEW SPIKE.—It is seldom that patents on railroad spikes attract interest, but one, covered by patent No. 942,658, December 7, 1909, issued to James T. Nulty, of Philadelphia, Pennsylvania, is so novel and possesses such advantages that it cannot pass without notice and commendation. It is a spike which serves two purposes, and serves them both well. Instead of locating the head of the spike at the upper end of the shank, Mr. Nulty forms it at the middle of the shank.

The head is similar to the ordinary spike head, and when the lower portion of the shank is driven into a tie, the head will engage and hold the base flange of a rail, as does the ordinary spike head. The "upper story" of the spike, so to speak, now performs its function by being bent or driven in toward the rail until its upper end bears against the underside of the rail tread.

Thus the spike not only serves to hold the rail in place upon the tie, but also serves to brace the rail against turning over. Such a spike will be decidedly advantageous on curves and at other danger points.

CONTROLLED CAR-DOORS.—In that class of railway cars of the "easy access" type, considerable confusion occurs if the passengers themselves have to open the doors. To place the doors under the control of a guard or conductor and to permit all of the doors being opened simultaneously, is the aim of an invention shown in patent No. 942,265, December 7, 1909, issued to Peter M. Kling, of Pittsburgh, Pennsylvania.

The car devised by Mr. Kling is of the usual type mentioned above, but the doors of his car are connected at their upper and lower edges by bars which cause them to move in unison. An arm is connected to one of the doors and is actuated from the piston of an air-cylinder.

By the slight movement of a lever in one direction or the other, the guard can admit air to either end of the cylinder and simultaneously open or close both doors.

NOVEL STREET-CAR.—A novel construction of street railway car is shown in patent No. 935,633, October 5, 1909, issued to Edward A. Barber, of York, Pennsylvania. Mr. Barber aims to provide a closed compartment for the motorman of the car, which will not interfere with the entrance and exit of passengers, and to so arrange the doors closing this compartment and the entrance to the car proper that neither door will interfere with the other.

The compartment for the motorman is to the right when facing the front of the car, and is divided from the platform proper by a short partition and a door, which latter is hinged at one side of the doorway or entrance to the car proper.

The door which closes the entrance to the car proper is hinged at the same side of the said doorway, and while the doors may be independently swung upon their hinges, means is provided for automatically connecting them, so that they may be swung together to open or close either doorway, while they may be independently swung to close or open either or both doorways.

As a result, in the summer months, the motorman's door may be left open as well as the doorway to the car proper, whereas in the winter months, the motorman's door may remain closed while passengers enter or leave the car. This construction will protect the motormen and provide comfortable temperature conditions within the car.

ANSWERS TO PATENT PROBLEMS.

W. R. D., Brookline, Massachusetts.—Are all applications for patents on railway appliances examined in the same division or by the same examiner in the Patent Office?

There are several divisions in which applications on such inventions are examined, and at present certain classes are being reclassified.

H. D. L., Boston, Massachusetts.—If a party secures a patent, can any one interfere? 2. What is the time-limit on a patent?

1. From your first question, I judge that you wish to know whether or not another party can enter into an interference after a patent is granted. During any time within two years after the date of issue of a patent, an interference may be declared. 2. Seventeen years.

W. K. S., Portland, Oregon.—Suppose that an application should be filed in the Patent Office for a patent, and the Office should reject the same, how long a time does the applicant have to answer the rejection?

One year. Usually a full response to the rejection must be made and such should be made always. That is, full explanation should be given why the reasons for rejection are not proper or well taken and all advantages should be fully pointed out.

NONE KILLED IN TEN YEARS.

GEORGE A. CULLEN, G. P. A. of the Delaware, Lackawanna and Western Railroad, sent the following communication to the New York *Times* recently. We gladly reprint it in THE RAILROAD MAN'S MAGAZINE, and, as the *Times* suggests, we will gladly publish any record that matches it. Mr. Cullen writes:

"From time to time recently you have referred to the published statements of certain railroad companies with respect to their enviable records of safety during the last fiscal year.

"Your readers will be interested to learn that during the entire decade, Jan. 1, 1900, to Jan. 1, 1910, not one passenger has been killed as the result of a train accident on the Lackawanna Railroad. During this period of ten years this road has transported 193,787,224 passengers. Each passenger has been transported an average of 19.91 miles.

"The number of miles run by passenger trains during this time amounts to 65,340,908, which is equal to operating 19,927 separate trains all the way from New York to San Francisco, or a daily train service across the continent continuously for over fifty-four years."

Millions for Railroad Trifles.

BY T. S. DAYTON.

WHEN "company's money" is a vague and boundless something to be squandered in careless extravagance, supplies are ordered chiefly on the theory that it is good for trade. When business was booming, and prosperity stalked through the land, all the railroads were lavish in their purchasing departments. But when the panic of 1907 came, the railroads felt that this generous policy could not be a running mate with solvency. A careful and exhaustive system sprang up among them as a result of this warning, and now railroad housekeeping is one of the highest developed branches of the science of railroading.

Anybody Can See the Big Leaks, but It Takes an Expenditure Committee to Discover the Little Ones, for It Is Through Them the Profits Disappear.

OVER 2,000 miles of lead-pencils, 50,000 boxes of pens, 60 barrels of ink, 4,000 pounds of pins—these are what the employees of the average 5,000-mile railroad use in a twelve-month. The railroads keep a strict guard, nowadays, on the consumption of even these trifling articles. They are economizing in everything, especially by stopping the numberless tiny leaks in their expenditures that in the aggregate mount up into millions.

The Pennsylvania Railroad, for instance, spent $30,000 in 1907 for rubber bands—just the ordinary kind that you slip around folded sheets of paper. In 1908 the Pennsylvania employees had all the rubber bands they needed, but the supply cost about $10,000 less, largely because they were used more carefully.

The greatest businesses in America—the railroads—are to-day realizing, more than ever, that their profits lie to a great extent in their economies. Anybody can see the big leaks. It is the little ones that the expenditure committees are now relentlessly hunting out.

Nearly every large line in the country now has such a committee, generally consisting of several of the high executive officers, whose task it is to see that expenses are kept down to the lowest notch without impairing efficiency. In the matter of supplies of all sorts, their instructions to the department heads run substantially like this: "You can have whatever you need, but you must see that it is used economically."

In no better way could the enormous possibilities of waste and consequent loss on the railroads be better shown than by telling the amount of material and supplies that they buy each year. There are several roads that consume more than $30,000,000 worth annually.

A Ten-Million Cut.

There are at least nine railways that buy from $10,000,000 to $20,000,000, twenty-nine roads buy from $3,000,000 to $10,000,000 each, and more than a hundred railroads purchase from $300,000 to $3,000,000 worth of material and supplies every twelvemonth.

The aggregate spent annually in this way does not fall far short of the stupendous total of $700,000,000. From this it will be seen what this great movement toward the economical utilization of material is likely to mean.

Waste with Prosperity.

During the past few prosperous years, when the roads had all and sometimes more business than they could handle, they were lavish in their purchases of everything, from stationery to steam-engines. Business was booming, and the requisitions on the storekeeper were often generously large, owing principally to every one being too busy to give them careful and judicious scrutiny, and to the human failing that goes with a full pocket.

Every one was so rushed with work that there was not time to fix up tools or supplies when they got the least bit out of order. Into the scrap-heap they went.

Now, every requisition is having the acid test applied to it by numerous eminent experts before it gets to the expenditure committee; and after the goods are bought and issued, they do not get into the scrap-dock until they are absolutely used up beyond repair and cannot be utilized for any other purpose.

A Sure Welcome.

On a big system the penny wastings run into thousands of dollars every year. The present movement, inaugurated by the executive heads, runs down through every department until even the humblest employee is enthusiastically doing his best to help.

There is no more welcome caller in the office of any head of department—or even in that of the president himself—than the man who has a new and practical idea of how the road can save money.

One of the principal tasks of the expenditure committee is the scrutiny of requisitions for supplies. The lists of requisitions come in from the purchasing-agent showing the number and kind of each article wanted, the price, and the name of the firm from whom it will be purchased.

The statistics on file as to the quantity of each item in stock and its monthly or annual consumption in the past are consulted, as well as the prices hitherto paid for it. If everything is O. K., it goes through. The committee's every doubt, however, has to be cleared away before it is passed.

The necessity of using the utmost care and judgment is so strictly impressed on every one from the bottom to the top nowadays, however, that most of the paring down of requirements is done before the requisition is finally submitted to the committee.

Microscope for the President.

Another part of their work is the thorough and searching scrutiny of all accounts covering expenditures outside of the purchase of supplies. These accounts are carefully analyzed before being presented, and comparisons are made, so that their "true inwardness" may be seen at a glance.

Not even the president's expense account escapes the most rigid examination, and the commissary account of the president's private car is no less submitted to the deadly parallel of comparison than that of any of his subordinates.

Nothing is too small to escape. One big trunk line spent some time making exhaustive experiments with pencil-sharpeners in order to find out which was the best and most economical.

The way these little things are wasted is not so strange when one comes to look closely into it. Take rubber bands, for instance. Some roads used to buy these in

pound boxes, and issue them in that way to the various departments.

When a clerk wanted any, he would grab a handful and put them in the drawer of his desk, some to be used, and the rest to gradually get mixed up with papers and slip out of sight or into the waste-basket, shortly necessitating another trip and another handful.

Other roads supplied each size in a separate box, which resulted in nearly every clerk who used rubber bands having a number of boxes in his desk at the same time. Now, the practise is to furnish them in ounce boxes of assorted sizes, and to keep watch that no undue accumulation ensues throughout the office.

Leaking Millions in Cents.

It used to be the case that any one could get from the clerk in charge of the supplies in each office half a dozen lead-pencils at a time if he wished; and if his fancy required a particular kind of pencil, it was forthcoming. Now the clerks get their pencils one at a time, and have to be careful of them. A still greater economy —a saving of from $25,000 to $50,000 a year on a good-sized road—is now effected by every one using the same kind and grade of American pencil.

Pens are also dealt out just as carefully —one or two at a time, instead of by the box—and these, too, have been standardized, and their cost cut in half. The pins the big railroads are using now are made of steel, instead of brass, and cost but one-quarter of what they used to.

Vast quantities of letter-heads are used by a big railroad, for there is a lot of correspondence passing to and fro continually. The day of the engraved letter-head and of bond paper has practically passed since these economies have been instituted. That kind of stationery is still supplied to some of the high executives, but they restrict its use to letters addressed to people outside the company.

The cheapest serviceable paper is what is used in company correspondence. Most roads are also vigorously urging the curtailing of letter-writing, and urging the asking of as many questions as possible verbally.

This is to eliminate the writing of letters to the man at the next desk "in order to get a record of it," as used to be the custom. A hundred thousand dollars a year is a moderate estimate of the saving in this item alone, aside from the time taken in dictating, reading, and signing letters.

Clipping the Station-Agent.

Station-agents used to have generous supplies of stationery, enough to last them two or three years in some cases. Now there are several men who travel over each road checking up and shipping back any surplus stock. A thirty-days' supply is now the maximum allowed on some roads.

On a big system, made up of a number of different lines, there has been a vigorous movement to standardize all supplies and to bulk the purchases. Take the item of way-bills, for example. Such a system uses perhaps twenty million way-bills a year.

They are now printed on paper of a uniform quality and ordered through one purchasing-agent, thus saving from $40,000 to $50,000 a year over what they cost when each line used a different form and had them printed separately. By standardizing railroad tickets and mileage books, one Eastern trunk line is now saving over $100,000 a year in its printing bills.

As an example of how much can be saved in the supplies furnished to general offices alone, it will be only necessary to cite the case of the Pennsylvania. In 1907, that road's general office expenses were $396,137. Economy and care cut this about $135,000 during 1908.

Ninety per cent of the operating material and supplies that a railroad purchases finally reaches the scrap-bins. That means that material originally costing $630,000,000, when it is more or less worn out, is "scrapped." That is where one of the greatest wastes, or the greatest economies, of a railroad lies. Lately nothing has been more closely watched.

Reducing the Scrap-Heap.

Into the scrap-heap, at last, goes every bit of metal from lanterns to locomotives. One of the big Eastern trunk lines receives about $3,000,000 a year from the sale of this scrap metal. In the old days

it was customary to offer it to buyers as so many tons of "miscellaneous scrap."

The dealers bought and sorted it themselves, frequently realizing enormous profits from so doing. They speculated on the quantity of each kind of the various materials each lot would contain. Now the speculative element is eliminated, for the railroads do their own sorting.

It will surprise most people to learn that there are ninety-eight different kinds of scrap, according to the classification the railroads adopted in 1908, and each kind takes a different price. It is in the rigidness of the inspection, however, that the railroads have been saving money of late.

Before the scrap is offered for sale now it is inspected by no less than four different mechanical experts. Everything that it is possible to utilize, either by repairing or in some other way, is picked out.

Twisted or bent rods are straightened so that they can be used again. If they are broken, they are cut up into bolts. Even the old bolts themselves are rethreaded.

Nothing that can be used over again by repairing, without decreasing its efficiency or taking up too much time, is allowed to go into the scrap to be sold. The result is that, while the amount of scrap disposed of is less in tonnage, it brings, in the aggregate, more than it did, owing to its being so carefully sorted into the many different classes.

Further, the material reclaimed, owing to the rigid inspection, and used over again, on a big road runs into an enormous value—how much of a saving none of the roads have been able to figure accurately, owing to the lack of any standard of prices for second-hand material, but on a large system it must be several millions a year.

From Brooms to Locomotives.

Even bridge-stringers and cross-ties are turned to account after their original usefulness has passed. The former are now used for crossing-planks and all kinds of repairing purposes, and the latter are sold for firewood.

Another paring down in expense is being made by standardizing everything from lead-pencils to locomotives. "Standardizing," which means using the same type or pattern of each article throughout an entire system, is not a new thing, by any means; but it has never been carried to such an extent as it has during the past two years.

Take it in the unconsidered item of tools for cleaning cars, stations, and offices. The Santa Fe system recently announced that it uses annually about 26,000 brooms, 25,000 hand-mops, 25,000 scrubbing-brushes, and 20,000 boxes of soap.

The brooms, mops, and scrubbing-brushes are each of the same type and kind all over the line, and the soap is all of one quality. This is true of nearly every other large railroad in the United States.

The economical principle is obvious: 25,000 brooms of the same pattern cost less than that number in six different designs.

Comparisons of Cost.

In brooms and scrubbing-brushes, as well as in the vaster items of consumption, the standard has not been decided upon until after long and exhaustive tests have been made. Statistics are being amplified to show what ties have the longest life and give the least trouble from spiking.

From the records of the spikes the design requiring the least renewals and working the least injury to the ties is determined. From the records of fire-boxes the designs and character of sheets giving longest life and best service per unit of first cost and repairs are learned.

From the fuel records the value of different kinds of coal are known, and a record of performance as to tonnage and mileage is at hand as between various classes of engines and engine-crews. And so it goes all through the list. Everything is being most carefully supervised and watched in the most systematic way that can be devised.

Of course, the vast masses of comparative statistics necessary for these economy committees cost a great deal of money; also the army of supervisors whose duty it is to be continually on the watch against waste. But it is already apparent that the cost of saving these millions is infinitesimal compared with the huge result.

Watch for the Gleaming Eye!

BY AL. HERRON,

Detective for the Wabash Railroad

VARIOUS schemes are used by railroad detectives in landing a quarry. Frequently the man who is being hunted is either so heavily disguised or so elusive in his habits that he can make a get-away without any trouble. It takes some particular personal fault or trait of his to finally get him in the meshes of the law. Al. Herron generlly manages to land his man by the eyes; but he had several very remarkable encounters while looking for eyes.

The Unique Method Used by an Old Wabash Detective In Successfully Running Down Some of the Men Who "Attacked" the Road.

DETECTIVE work has been reduced to such a system these days that the old maxim, "It takes a thief to catch a thief," has no place in our category.

The chief requisite is honesty; next, persistence, watchfulness, patience; lastly, and always, courage, nerve, *nerve!*

There isn't so much romance in real detective work as is generally supposed. Candidly, I was attracted by this alleged romance. I didn't find out my mistake until I had learned a new profession.

Although a railroad detective's life is mostly occupied with the serious problem of criminology, he frequently runs across many humorous incidents.

All detectives have met with their failure cases. If a detective has not—well, he isn't a detective. A detective denying that truth is an utter stranger to veracity.

I have met and overtaken a lot of crooked people during my thirty-odd years of duty as a detective—private and professional, railroad and otherwise—yet I do not claim to be a great criminal-hunter.

I have been successful because I've made a study of crime and have not trusted so much to luck as some detectives, notwithstanding luck does indeed play an important part in a detective's life. Any good detective who has made a study of criminal types cannot only recognize the traits of the type, but he can, if the chances are not altogether unfavorable, catch his man and prove him a criminal.

I always remember a man by his eyes. If I once get a square look at a man's eyes, I would recognize him if I met him anywhere. The face is always changing; the eyes never change.

A man without strongly marked features can deceive the shrewdest detectives, if the latter have not made a study of the eyes. There are men whose faces are completely changed by shaving off a mustache; even a week's growth of beard and a change of clothing will disguise some men.

There are other men who look like tramps with a three days' stubble on their faces. A change from a stiff hat to a soft hat completely alters some; but, if you have noted their eyes, you cannot mistake them.

Every profession stamps its imprint on the eyes. If you notice closely, you will observe that the eyes of the merchant

differ from those of the lawyer; the eyes of the day laborer from those of the skilled railroad mechanic.

Next to the eyes, I note the walk of men. A criminal cannot walk like an honest man. Indeed, I can almost tell a thief by listening to his footsteps.

Perhaps my quickest deduction in apprehending a thief was in the case of one Throxton Durgan, who had dropped into the habit of robbing trains on several of the roads running into St. Louis. This was many years ago. It appeared that one man was doing it all. In his very boldness lay the secret of his success.

IN HIS VERY BOLDNESS LAY THE SECRET OF HIS SUCCESS.

It was his custom to get on a train, conduct himself in a modest, almost Chesterfieldian, manner, and, when the proper time came, jump up with a pistol and demand money. The detectives were baffled; the sheriff went after the fellow, and came home with two ounces of lead in his system.

An old man who had been known as the leader of a Ku-Klux band went into the swamp after the train-robber, and since then one of his eyes has been permanently closed.

Things went on until the Governor of Missouri desired to be shown. He issued a proclamation offering a reward, but the robber was not caught. Just about this time a Chicago man was appointed superintendent of a branch of the Wabash that had suffered a recent attack presumably by this same train-agent, and I, too, began my connection with the same railroad.

It was only a few days after our appointment. We were at headquarters in St. Louis, when a man called upon the superintendent.

"My dear sir," he said, "I owe your road ninety-eight cents."

'Twas an Odd Debt.

"I don't know about that," replied the superintendent, while we both looked at the stranger rather sharply. "But, if you do, now's the time to pay. What is it for?"

"It's an odd debt, I agree; but I'm honest, I am, and therefore must pay. I came in on your road this morning from L——. I dropped off to sleep a few minutes after boarding the train, and the conductor neglected to collect my fare; so, you see, I decided to come here and pay off. Here's a dollar."

I was struck by the man's eyes. I said nothing, but began to make my *Sherlockholmesian* deductions.

"What!" exclaimed the superintend-

ent, "you had a chance to beat a railroad company and didn't do it?"

The man started to reply, but I interrupted by accusing him of being too honest, gently informed him that he was Throxton Durgan, the train bandit, and placed him under arrest.

The same day, when confronted with evidence, he confessed he was the robber wanted.

A peculiar incident happened to a brother detective, Brock Wilson, and myself, just five weeks prior to my connection with the Wabash.

It was when the notorious Winthrop Weston, the Kansas City train robber, made his escape and was presumed to have flown to St. Louis. Receiving word that Weston was hiding in a barn in the outskirts of the city, we started for the place and were informed that he could be found in the hay-loft. Wilson, who was a single man, volunteered to go up first.

The Eyes in the Loft.

"You stay down there," he said to me, "because you have a family and I have not."

Wilson made his way to the hay-loft, and, in the darkness, caught the sight of two eyes, which, he supposed, were the train robber's.

"Winthrop Weston!" he yelled. "I don't want to take any chances with you! Give yourself up, or I'll shoot—shoot to kill!"

The eyes stared at Wilson for a few seconds, then suddenly he saw them move and they appeared at another corner. But Weston did not open his mouth. There was the same stare and the gleaming eyes, but not a sound.

Wilson again asked for a surrender, and, receiving no reply, fired. To his surprise, the eyes disappeared, but there was no cry of pain. Wilson made his way slowly up to the place where he had seen the eyes gleam and struck a match.

Imagine his surprise, when, instead of the train robber, he found a cat in the last throes of death. He had hit the animal square below the eyes. I came up just as he pulled the cat out of the hay.

While I was associated with Brock Wilson, we succeeded in capturing for the Wabash Railroad, a pass forger named Burns, whose operations involved railroads all over the country.

He had been systematically securing passes from railroads by means of forged requests purporting to have been issued by the officials of various roads.

The applications were always filled out on blanks which appeared to be regular, and stamps and signatures were well counterfeited. Transportation would invariably be issued and sent to Burns. Various aliases were used, but he always received the passes, which, it is alleged, he sold to ticket brokers.

They were altered before they were used, and, when taken up, their ownership could not be traced by the railroads.

Burns's arrest was partly the result of information sent to the chief of the Western Passenger Association. He said that a man giving his name as O. H. Morton, and giving his address on West Monroe Street, Chicago, had been using letters of recommendation on the railroad company, which he had sent to the general superintendent of the Wabash, asking for transportation.

These, he said purported to bear the superintendent's signature, which was a forgery. The association instructed the chief to take extreme measures to arrest the man. Wilson and I were detailed on the case with promise of an additional reward outside of our regular salary if we succeeded in landing the crook.

We learned that Morton, whose correct name was Burns, had been receiving his mail at the Monroe Street address. There Burns met a young woman, who wanted to return to her home in Fort Wayne, Indiana, but did not have sufficient money. She added that she desired to go via Logansport and thence on the Wabash to Fort Wayne.

Just Ask ME.

"Oh, I can pass you over any line you wish," said Burns.

"You can?" said the woman. She was somewhat surprised that he did not present the appearance of a prosperous railroad man.

"Why," he assured her. "If you want a pass, just ask me. I can get it for you any time."

INSTEAD OF A TRAIN ROBBER HE FOUND A CAT.

Burns asked her to hold any mail that might come addressed to O. H. Morton, and, one day, he called to see if there were any letters for him.

We traced him to Twenty-Second and State Streets, where he was reported to be living. At Twenty-Second Street and Wabash Avenue we were told that a man answering Burns's description was in a house in the next block. We went there and arrested Burns.

Caught with the Goods.

In his room was a satchel containing the papers used by various railroad companies in official correspondence, dies, stamps, inks, and all the necessary materials to forge railroad tickets.

There was also a supply of blank traveling cards issued by the American Railway Union and by almost every other railroad labor organization in the country.

Burns's operations were found to be more extensive than at first supposed. The die-maker and the printer who had furnished Burns with the letter-heads and stamps found in his possession were located, but they had no knowledge of the purposes to which they were put.

The imitations of the letter-heads, stamps and membership cards were exceptionally good. He was tried, convicted and sentenced.

THE "LIMITS" OF ENGINE BUILDING.

The Past Year Has Shown Continued Increase Beyond What Was the Supposed Size.

THE most surprising fact in railroad development during 1909 was the continued and very considerable increase in the size of passenger and freight locomotives. So marked has this been, that we have ceased to hear anything of late about the "limits of size having been surely reached."

The adoption of the Mallet articulated system has made this increase possible. Two locomotives built by the Baldwin Company may be quoted as instances of this construction. A freight locomotive for the Mountain Division of the Southern Pacific Railway, built a few months ago, has 6,393 square feet of heating surface, the engine weighs 213 tons, and the engine and tender together weigh just under 300 tons.

Toward the close of the year the same company built for the Atchison, Topeka and Santa Fe Railway a still larger locomotive, with 6,621 square feet of heating surface and 1,745 square feet of superheating and reheating surface; the engine alone weighs 231 tons; engine and tender together 350 tons.

The most novel and important departure in the new passenger engines of the year is a huge Mallet 16-wheel locomotive, with two high-pressure 24-inch cylinders driving six coupled 73-inch wheels, and two 38-inch low-pressure cylinders driving four coupled 73-inch wheels.

The total heating surface is 4,756 square feet, and there are 1,121 square feet of superheating and reheating surface. The engine weighs 188 tons, and the engine and tender together 305 tons. Such an engine will be able to haul the exceedingly heavy express trains at a high rate of speed.

THE REBATE.

BY FRANK L. PACKARD.

There Was Real Trouble When Dutchy Damrosch Got the Lunch-Counter Rights at Dry Notch.

HE was known as Dutchy, but his name was Damrosch. He started railroading as cook's helper on a construction-gang that was laying track across the prairie. As the mileage grew, so Dutchy grew. At first lank and lean, he took on, little by little, the appearance of being comfortably nourished, until, by the time they hit the Rockies, Dutchy's gait had become a waddle and his innocent blue eyes were almost hidden by the great rolls of fat that puffed out his face like a toy balloon.

Then Dutchy, slow of body and likewise of brain, and yearning for a quiet and peaceful existence, secured the lunch-counter rights for Dry Notch. Now, Dry Notch, half-way across the prairie, consisted of a water-tank, a small roundhouse, a smaller station and a diminutive general store. But because of its geographical position it was headquarters for the Mid-Plains Division.

Brett was superintendent in those days, Thornley was master mechanic, and MacDonald chief despatcher. With the railroad hands and train-crews they comprised the population of Dry Notch, unless there might be added a few ranchers somewhere in the neighborhood. The staff bunked in a room over the station, and the men had their quarters in the roundhouse, but one and all they ate at Dutchy's counter. Sinkers and coffee, apple pie and sandwiches they stood as a steady diet for a month after he had appeared upon the scene, and then a delegation waited upon him and demanded dishes more substantial.

"You can make meat pies and chicken stew and all that sort of thing, can't you?" they demanded.

"Sure!" said Dutchy. "But dot iss oxpensive."

Money was no object, they assured him, and thereupon proceeded to fix a schedule of prices—fifteen cents for a meat pie; twenty cents for a chicken stew—with

two slices of bread and butter thrown in for good measure.

"Vell," said Dutchy, "so iss it."

And a few nights later, true to his promise, they got out their chicken stew—canned chicken stew.

The huge pot, full to the brim, had been emptied, and Dutchy, his face beaming with smiles, had bustled into the back room for a further supply, when MacDonald's voice rose plaintively:

"It's—it's *chicken,* isn't it?"

The crowd looked inquiringly at the despatcher.

"Because," went on MacDonald softly, "I—I never heard of any chickens in Dry Notch."

And then, amid the laughter that ensued, Thornley rose dramatically from his seat, and, picking up a bone from his plate, waved it aloft.

"Gentlemen, this is no time for mirth!" he cried. "We are the victims of a swindle. We are in the clutch of an octopus—that is to say, a food trust, composed of Dutchy and the dining-car conductors of Nos. 1 and 2. It is my painful duty to assert that I recognize this bone as the identical bone on which I fed two nights ago coming up the line on No. 1."

Dutchy entered, staggering under the load of the replenished pot, when Thornley solemnly demanded a rebate on the spot.

"Vat iss it?" said Dutchy, halting and peering anxiously into the pot; then, evidently reassured that no essential ingredient had been forgotten, he looked up at the ring of faces that were regarding him with grave inquiry. "Vat iss a repate?" he demanded. "It something iss mit der bread und butter for twenty cents to go, yess?"

The crowd roared, and up and down the division train-crews, engine-crews, and section-gangs got the joke and passed it on until the lunch-counter became known to every man on the system as "The Rebate."

They did not explain the joke to Dutchy, and for days he endured the chaff stolidly, though with much bewilderment, until, one afternoon, MacDonald patiently and ploddingly acquainted him with the unhallowed baseness of one Thornley—helping himself, by way of compensation, to the heap of doughnuts under the glass cover.

Dutchy listened, his cheeks getting redder and redder as MacDonald, exaggerating some hundredfold, suavely rubbed it in.

"Dot Thornley iss—iss a pig!" shouted Dutchy suddenly, as the light burst in upon him.

MacDonald nodded assent, his mouth too full of doughnut to speak.

"Und I a fool iss, yess?" continued the proprietor, pounding a fat fist on the counter.

Again MacDonald nodded, smiling sweetly—and reached for another doughnut.

But this time Dutchy's fingers were firmly clasped around the cover, and he peered suspiciously through the glass at the number of doughnuts remaining, then glared at the despatcher.

"You—you git out from here!" he said slowly, but with rising emphasis.

And MacDonald, chuckling, went.

It was not until after supper that same evening, when No. 1 pulled in, that Dutchy made any move toward retribution—then Dutchy cut loose. It was Taggart who got it—little Shorty Taggart, the driver of No. 1, who was red-haired and an inveterate joker, and likewise a great crony with Thornley.

The first intimation MacDonald had that anything was up was an enraged howl that, rising above the tumult of the station, reached him where he sat in the despatcher's office. There was no mistaking that voice—it was Dutchy's! He stuck his head hastily out of the window, while Thornley, who was in the room, leaned over his shoulder.

Dutchy was bellowing like a mad bull. "Say it! Shusht say it! Oh! py golly!"

Here followed a volcanic eruption of guttural German with one or two words common to all languages intermingled.

Then, flying through the doorway of the lunch-room, dashing down the platform, scattering loungers, passengers, and car-tinks in all directions, in a mad rush for the engine end of the train, tore a short figure in tight-fitting, bandy-legged overalls, whose flaming red hair presented a shining mark for the plate that whizzed past his ear and smashed into a hundred pieces against a baggage-truck.

And Dutchy, blowing hard, his sleeves rolled up over the fat of his arms, waddled to the center of the platform and shook a frantic fist after the retreating engineer.

"I a fool iss no longer yet, don'd it?" he screamed, and, puffing his cheeks in and out like a wheezy injector, he returned, reentered the restaurant, and the door closed behind him with a resounding bang.

PRESENTED A SHINING MARK FOR THE PLATE THAT WHIZZED PAST HIS EAR.

MacDonald drew in his head, and the tears were running down his cheeks as he held his sides.

Thornley groped for a chair.

"Guess Taggart was asking for a rebate," he gasped. "It was worth pay to see him run."

"You bet!" said MacDonald eloquently when he could get his breath.

The door opened, and Brett, the super, came in.

"D'ye see Taggart and Dutchy, Brett?" cried Thornley.

"Yes," said Brett, laughing. Then, more seriously: "Look here, you'd better patch it up with Dutchy. There's no use rubbing it in too hard. MacDonald, tell Blaney to put my car on No. 2 when she comes in. I'm going east to-night."

The patching, however, was quite a different matter than talking about it.

The next morning the lunch-room door was ominously closed—and the staff went breakfastless. By listening at the keyhole, and from an occasional glimpse through the window, they knew that Dutchy was inside.

But to pleadings, threats, and door-kickings the occupant was, to all intents and purposes, oblivious. Things began to

look serious for the staff, station and shop hands who were wont to depend on Dutchy for their grub-stakes.

Thornley whistled softly and pulled at his pipe, his feet on the despatcher's desk.

"He'll *have* to open up when No. 97 pulls in," Thornley was saying, more by way of reassuring himself than of presenting any new view of the case to MacDonald. "The company won't stand for any inconvenience to the passengers—that is," he hastened to amend, "not of this kind. What? They've got a sort of lien on that joint, and if he waits for them to get after him he'll get into trouble. Wish Brett were back—he'd make him open up quick, I guess. What's the matter with No. 97, anyhow? Thought you said she was on time?"

"So she is," said MacDonald, grinning. "Hear her?"

From the eastward came the hoarse shriek from the whistle of a five-hundred class.

"Guess I'll go down," said Thornley. "Coming?"

MacDonald nodded and got up from his chair. The two men reached the platform in time to acknowledge a flirt of the hand from Sanders in the cab as the big machine, wheel-tires sparking from the tight-set brakes, rolled slowly past them, coming to a halt farther on.

Simultaneously the door of the lunch-room swung wide open, and on the threshold, completely filling the opening with his bulk, stood Dutchy. In his left hand he held his bell, which he began to ring clamorously; in his right hand, almost but not quite concealed behind his apron, was no less a weapon than a substantial-looking rolling-pin. A crowd of passengers began to surge toward the restaurant, and among them mingled the hungry railroad men of Dry Notch.

"Come on!" shouted Thornley exultantly. "I knew he'd have to open up. Here's where we feed—hm?"

"Vait!" cried Dutchy imperiously, as the head of the column reached him. "You, yess; you, no. Vat iss it?" He was sorting the sheep from the goats, allowing the passengers to enter, pushing the railroaders ruthlessly to one side.

"You, yess; you, no. You, yess; you —oh! py golly!"

He had caught sight of Thornley, and, swinging suddenly, struck out viciously in that direction with the rolling-pin. Being obliged to maintain his position in the doorway, the strategic key to the situation, the jab fell short by two or three inches, barely missing Thornley's nose.

Thornley fell back instinctively.

"Look here, you old ass!" he yelled angrily, "we've had about enough of this. It's past a joke. The company's got a lien on that joint of yours, and we'll close it up so tight you'll never open it again—d'ye hear?"

Dutchy stopped short in the monotonous, "You, yess; you, no," on which he had recommenced, and his paunch began to shake. "Yah!" he cried. "Dot iss a joke. Oh, py golly, *lean!* Dot iss ven you starving get, yah? Ho, ho! Ha, ha!"

In Dutchy's burst of merriment first one and then another joined, until even Thornley, his good nature getting the better of him, roared with the rest at his own expense.

But if this apparent return to good humor on Dutchy's part inspired any hope in the minds of the railroad men that he had relented and that former friendly relations were to be resumed, they were doomed to disappointment, for Dutchy stolidly continued to allow the passengers to go in and as stolidly barred the entrance to the others.

Then they gave it up, and bought out the slender stock of canned goods and biscuits from the shelves of the general store.

They messed in the baggage-room and they swallowed their scanty portions to the tune of "Die Wacht am Rhein," bellowed out by a strong and sonorous voice through the partition, on the other side of which, laid out in tempting confusion, as they were painfully aware, was plenty.

What they had, however, did little more than whet their appetites, and by three o'clock some of the men were talking of carrying the position by storm, helping themselves, and doing a few fancy stunts with Dutchy.

"We can't have any row," said Thornley, pulling at his mustache and staring at MacDonald. "What had we better do? The boys'll be pulling the old shack down around his ears. He'll fight like blazes, and some one'll get hurt. And

then the company'll want to know what's what. Say, the old Dutchman has got us where he wants us, sure—eh, what?"

MacDonald nodded.

"I'll tell you what it is," Thornley went on impressively, "there's some one besides Dutchy in this. They've been giving him a steer, and *I'd* give a few to know who it is. It's mighty queer Dutchy 'ud wake up so suddenly to the fact that he was a joke. Then, there isn't enough to that rebate josh to make him so sore. Some one's been stringing him good and plenty. What had we better do?"

"I don't know," MacDonald answered. "Let's go and see if we can't talk him over."

At the sight of the master mechanic and the despatcher heading for the lunch-room, the trainmen and station-hands fell in behind them.

MacDonald halted a few paces from the door. "You boys, stay here," he directed. "Let me see what I can do."

Thornley and the men halted obediently, while MacDonald went on and knocked at the door. There was no response.

"Dut—Mr. Damrosch!" he called. "It's MacDonald. I want to talk to you."

This time his knock was answered, and so suddenly as to cause him to jump back in surprise.

"Vell, vat iss it?" demanded Dutchy, scowling belligerently.

"We're — we're —" stammered MacDonald, his confidence a little shaken at the proprietor's attitude. Then, desperately: "Oh, I say, confound it all, Dutchy, we're hungry."

"So!" Dutchy's exclamation was a world of innocent astonishment and kindly interest.

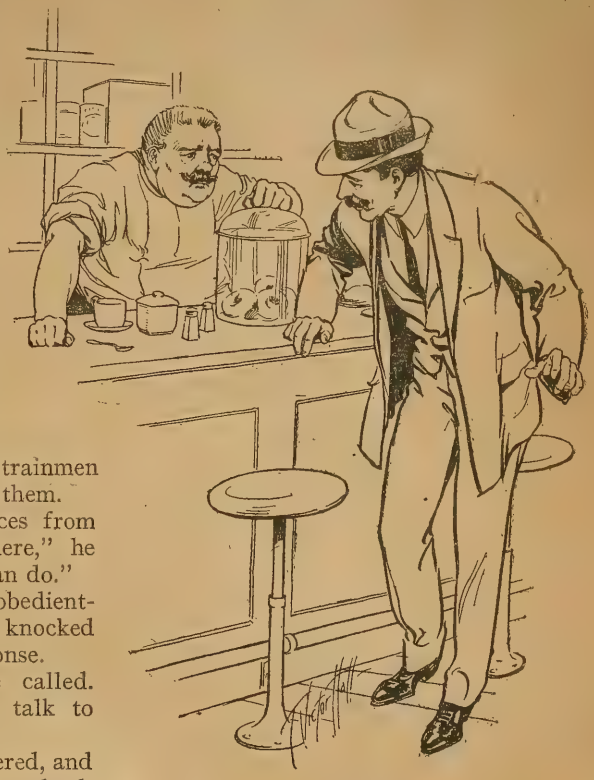
"Yes," went on MacDonald, diplomatically. "You bet we are. It's been a good joke, but you've had the best end of it. Let's call it quits, there's a good fellow, and—and give us all a hand-out."

Dutchy listened attentively to the appeal. "I, a fool iss no longer yet, don't it?" he queried softly.

"You most decidedly are not," MacDonald assured him.

"You vill for repates no longer ask, yet?" persisted Mr. Damrosch.

"Not on your life!" replied the despatcher earnestly, beginning to see daylight. "That's all off. We'll apologize,



PEERED SUSPICIOUSLY THROUGH THE GLASS AT THE NUMBER OF DOUGHNUTS REMAINING.

too, if you like. I promise you, we are quite willing to apologize."

"Vell, den," announced Mr. Damrosch, "ve vill aggravate," and he slammed the door in MacDonald's face.

"Oh, hold on, Dutchy!" cried MacDonald piteously, for he was very hungry. "What did you say?"

"Vat I said iss dot ve vill aggravate!" shouted Dutchy from the other side of the door. "Dot iss English, don't it? Aggravate!"

"He means arbitrate," prompted Thornley from the platform.

"Oh, all right!" said MacDonald. "We'll agree to that, Dutchy. Come on —open up!"

"I vill not mit you aggra—arra—*do it*

—hang dot vord!" Dutchy asserted decisively, but again opening the door. "But mit Mister Brett I vill do it."

"But Mr. Brett isn't here, you know that," retorted MacDonald, beginning to get exasperated. "And, what's more, he won't be back until the day after tomorrow. I guess you know that, too, don't you?"

Dutchy smiled a patient, chiding smile. "Dot iss too bad," he remarked regretfully. "But dot Thornley a pig iss, und you—oh, py golly! you—I could not you pelief. Ve vill vait for Mister Brett."

He was closing the door again, when MacDonald put his foot against the jam

"GET OUT!" HE CHOKED.

and, leaning toward Dutchy, said quickly, in an undertone:

"Look here, Dutchy, you're going too far. If I couldn't see any farther than you, I'd wear glasses. Now's the time to make your deal. I'll help you—see? You can get anything out of the boys now, but you push them too far and they'll pull the whole outfit down over your ears. You say what you want, and I'll get it for you."

Dutchy looked meditatively into MacDonald's face, and shook his head with a sad smile of wisdom. "I vould not in you pelief," he repeated.

"You don't have to. You don't have to believe anybody. Whatever you want us to do we'll do before you let us in to eat. You can't lose. What do you say?"

Mr. Damrosch scratched his head pensively, without taking his eyes off the despatcher. After a minute he tapped MacDonald on the shoulder. "Vell," he announced, "I vill tell you. Listen."

MacDonald listened — incredulously. Then he whistled a low, long drawn-out note of consternation.

"Well, you've got a nerve!" he gasped. "What do you think, eh? The boys'll never—" He stopped suddenly, a smile came over his face, and he chuckled softly to himself. "Dutchy, you're great! It'll be meat for the boys to make Thornley stand for it. That's what you want to do—make Thornley stand for it. Will the boys make him? Oh, will they! Give them the chance. That's the way to handle it. I told you I'd help you. Now, make your *spiel.*"

MacDonald turned to the group on the platform. "Dutchy'll arbitrate!" he cried.

At this the men began to push forward, but Dutchy stopped them. "Vait as you iss! Ven der—der—hang dot word—iss, den iss it. Vait!"

They waited, and Dutchy began to count on his fingers. "Dere iss sixteen dot breakfasted, didn'd?" he began. "Dot—iss—iss—"

"Average 'em up at a quarter apiece," prompted MacDonald in a whisper. "That makes four dollars."

"Iss four dollars—yess," went on Dutchy. "Vell, I vant dot.

"Dere iss der crews dot in-came und out-vent und didn't eat ven der door vas closed. Dot iss two dollars—yess? Vell, I vant dot."

The men came, too, and a roar of de-

rision rent the air, in the face of which even Dutchy was a little shaken.

"Stand pat," encouraged MacDonald. "You've got them coming and going."

Dutchy held up his hand for silence. "Dere iss der sixteen over again yet dot dinnered didn'd. Dot iss four dollars—yess? Vell, I vant dot. Dot iss four und two und four. Dot iss ten dollars—don'd it? Vell, I vant dot, und den you come in—yess, one py one—for a quarter py each."

Then, amid the storm of abuse and jeers that greeted Dutchy's ultimatum, MacDonald, with a final injunction to the proprietor to stand by his guns, turned and joined Thornley and the men, and on his face was the expression of one who has fought in vain for his friends.

"Vell, py golly!" screamed Dutchy above the din. "Vat iss it? Who vas der commencer of dot joke dot iss ten dollars to pay? It iss dot Thornley?"

"Why, you wretched old thief," yelled Thornley, "do you think we're going to pay you for grub we didn't get, because you wouldn't let us have it, and then pay you for it again when you do dole it out? We'll see you further, first."

"It vas agreed in front of der—hang dot vord!—py der—"

"Agreed nothing!" snorted Thornley.

"Dot you vill for repates no longer ask, yet, don't it? Vell, der price ten dollars iss. Dere iss no repate. Oh, py golly, Mister Thornley, dot vas an oxpensive joke—yess? Dot vas your joke, und I shusht thought me dot I hope you vill pay dot yourself."

Thornley paid. With no good grace, but because, as MacDonald had said they would, the men made him. Disgruntled and angry, he led the file into the restaurant, placing $10.25 in Dutchy's hand before he crossed the threshold.

Behind him followed MacDonald and the grinning line of men, each contributing their quarters—in advance—for the first square meal they had had that day.

"Eat vat you like," said Dutchy.

Thornley glared. "Eat vat you like!" he mimicked savagely. "I like your colossal generosity, at my expense!"

For a long time there was no other noise save the rattle of dishes and the busy clatter of knives, forks, and spoons. Then Thornley beckoned to Dutchy.

"Vell, vat iss it?" inquired the proprietor from behind the counter.

"Who put you on to this?" demanded Thornley. "I've had to stand for it, and I'd like to know. I would that!"

MacDonald, sitting beside Thornley, noticed, with some misgivings, a peculiar expression sweep over Dutchy's face, but to his relief the proprietor's only reply was a grunt, as he answered the call for more coffee.

"By the hokey, I'll bet it was that red-haired Taggart!" exclaimed Thornley suddenly, turning to the despatcher.

MacDonald buried his face in his cup, ostensibly to drain the last drop, then he set it down quickly and jerked his watch from his pocket. "Holy Moses!" he ejaculated, and fled from the room.

An hour later Dutchy stuck in his head and beckoned to the despatcher. MacDonald walked across the floor and joined him. Dutchy pulled him out of the room and closed the door.

"Dere iss one thing dot I forgotted did," announced Mr. Damrosch.

"What's that?" inquired MacDonald.

"Dere iss five doughnuts dot iss paid for not."

"Oh!" said MacDonald.

"Dot vas der time you told dot it vas, Thornley—yes? Dot vas von dollar py each. Vell, I vant dot—yess?"

"Really!" laughed MacDonald. "Well, I guess *not!*"

"Dot—vas—der—time"—Dutchy was raising his voice, each word growing louder and more distinct than the preceding one. Thornley's chair inside creaked ominously. MacDonald glanced furtively toward the door, and his face grew red—"you—told—dot—"

With a hasty movement, MacDonald clapped one hand over Dutchy's mouth, and with the other thrust a five-dollar bill into his fingers. "Get out!" he choked, and shoved Dutchy violently toward the stairs.

"What did the old fool want?" demanded Thornley, as MacDonald stepped back into the room.

The despatcher made no answer, busying himself over the key.

"Mac," said Thornley, after a minute, "you wait till I get hold of that red-haired Taggart and see—"

"Oh, shut up!" said MacDonald.

Forty-Three Years in the Baggage-Car.

BY E. L. BACON.

IF the casual reader thinks that a baggage-agent's life is a weary, dreary shifting of trunks from day to day, he must not miss this story, for it tells of a life that is filled with excitement and intense with odd happenings. There is no such thing as monotony connected with the baggage hustler's happy lot.

Little wonder, then, that a man close to his ninetieth year and in good health and spirits, who has spent sixty years in railroading and forty-three of those years in a baggage-car, should be able to spin such a yarn as this. And little wonder, too, that he would rather sit on a trunk than in the finest arm-chair ever made.

An Old Agent Who Had an Encounter with a Corpse, Chased Trunk-Charmers by Night, Traveled with Dickens and Spencer, and Frequently Carried as Much as $30,000 on His Person.

"TRUNKS, trunks! It's always the trunks."

The old man stood in the window of his little room in a West Street hotel and looked over to the Chambers Street station of the Erie, from which load after load of baggage was being wheeled across the wide stretch of asphalt.

"Sixty years I've been on the railroad, and forty-three of 'em I've spent with the trunks. I'm eighty-seven years old now, and I'm still handling 'em. And I guess I'll die with 'em. You see, I'm never more than a stone's throw away from 'em.

"In working hours I'm over there in the baggage-room, and the rest of the time you can always find me here in this hotel, where I've been living off and on since before most of the people around here were born. I'd feel kind of lost if I ever got out of sight or hearing of the baggage end of the railroad.

"Sixty years!" He turned slowly from the window and, with a far-away look in his eyes, seated himself on his trunk—an ancient, ponderous piece of furniture that occupied a large share of the room.

His name was painted on it—Andrew R. Leport. "Don't bother about giving me the chair," he protested. "I usually sit here. Chairs don't agree with me; I've been too long in a baggage-car. I'd be there yet if it wasn't for a little run-in I had with a conductor a year and a half ago.

"After that, an officer of the company came to me and said they'd discovered I was pretty near eighty-six years old, and it was about time I quit running on trains; so now they've got me over there in the baggage-room, though there isn't any reason for it except this new-fangled idea that a man isn't worth much when he gets along toward ninety.

"Sixty years! But it don't seem that long. Sometimes it's hard to realize that it's more than a few months since Jim

Fisk used to come strutting around, with his big cane, bossing everybody.

"Yet, do you know, sir, of all the men I worked and chummed with back in the fifties and sixties, there's not one living to-day. They've all gone into the ghost country. There was one who hung on for a long, long time. He was pretty near as old as I was, though he wouldn't admit it.

The Little Coffins.

"Considering all I've been through, it's a wonder I'm not dead, too. I've been in wrecks, and I've been snowed up for days in blizzards, and I've risked my life in a dozen different ways. We were running round a curve between Deposit and Hancock one night, at something like seventy miles an hour, when six cars were thrown from the track and went rolling down into the frozen Delaware River — all but my baggage-car and the engine.

"How it ever came about so luckily I never could understand. There wasn't one of all the passengers killed or badly hurt, but I must have gone up to the roof of the car and back again two or three times before I stopped. It was the worst shaking up I ever got.

"But I don't figure that as the closest shave I ever had by a good deal. I guess the biggest risk I ever took was with four coffins. And I didn't have to take it, either. I did it just because I couldn't bear to see a woman cry.

"It was back in the early seventies. At Binghamton a young couple met the train, and they had with them four pine boxes which they wanted to put on the baggage-car. I knew what was inside of 'em at a glance—coffins, little children's coffins.

"Just then somebody came out of the station and said to me: 'These children died up in Massachusetts of scarlet-fever, and the coroner has ordered them to be buried at once. You take them on this train at your peril. I warn you, you'll be liable to arrest.'

"I took a look at the mother. She was young and pretty. The tears were rolling down her cheeks, and she began to wring her hands and tell me she didn't want her children buried among strangers—that she'd set her heart on having them put in the family plot near her old home in Attica.

"That was too much for me. I said: 'Arrest or no arrest, those coffins will go on the baggage-car!'

"And they did. But maybe I wasn't a scared man between there and Attica! Scarlet-fever was killing off people by scores in those days, and a man's hair would pretty near stand on end at the mere mention of it.

"I shoved those boxes, as far as I could get 'em, to one end, and I squeezed up as far as I could get in the other end,

"CHAIRS DON'T AGREE WITH ME; I'VE BEEN TOO LONG IN A BAGGAGE-CAR."

and all the way to Attica I imagined I could feel the symptoms coming on.

"If I'd had any money to leave, I'd have made my will right then and there. But I guess there were some others scared besides me. That whole train-crew turned mad as wet hens when they found out what was aboard, though, they didn't dare come within swearing-range of me or the baggage-car for a week.

"That's a thing a man couldn't do in these days. But I was glad I was able to do it then; at least I was glad after all the danger was over. Many's the time I've thought of that little woman with the tears in her eyes and wringing her hands and pleading with me to help her have her children buried at home.

The Sleeping Corpse.

"It doesn't take a baggageman long to get used to having coffins around him. Many's the night I've slept on one without a quiver. But there was one night that I got a scare, and a bad one.

"I was alone, as usual, and the car was closed tight as a drum, for it was snowing outside and very cold.

"About ten o'clock, I stretched out on a coffin, and pretty soon was asleep. How long I slept I don't know, but I'd come out into a sort of a half doze when I heard the most awful, ghastly groan you can imagine.

"It seemed to come from right under me, and if my hair ever rose on end I guess it did then. I was too petrified to move. Any minute I expected to feel the corpse banging the boards under me trying to get out.

"I'd heard of supposed dead people in trances coming to life, and I was sure this was one of those cases. But, by thunder! if he was coming to life, I didn't want to be with him, not alone in that baggage-car. I'm not superstitious, and I've got an ordinarily good nerve, but that was too much for me.

"I managed to get enough of a grip on myself to jump up. Then I made a dive for the door, but stopped. I knew the boys would have the laugh on me, and that I wouldn't hear the last of it for a year if I ran out to them with my story, so I waited a while.

"I knew that the man couldn't get out of that pine box even if he managed to break through the coffin, for the boards were thick and were screwed down fast. My nerve began to come back to me, and I stepped up to it and listened.

"I heard the groan again, and I made a spring for the trunk that was just behind it. Between that and the wall, wedged in tight, was an old tramp sound asleep. When nobody was looking, he had squeezed his way into the car.

Meeting a Maniac.

"That brings back to me another night when there was a man behind the trunks, and a good deal more dangerous one than that tramp. We had a party of very rich passengers aboard who had just returned from Europe, and they had a lot of swell-looking trunks with 'em.

"There must have been a good many very costly things inside of 'em, and there were no end of thieves in those days who were looking for just such trunks. Baggage-charmers, these men were called. They made a lot of trouble for the railroads.

"About midnight, we were running through a very lonely country of thick woods. Outside, it was as black as your hat. No moon, no stars, just the dark line of trees was all that was in sight. I was fussing around with the baggage, looking it over and studying the pasters on the trunks from Europe. Some funny foreign label caught my eye, and I stooped quickly over to one side to look at it. Just as I stooped—*bang!* A big piece of timber had shot past my head, grazed my arm, and splintered on the floor.

"I turned around in a flash. Not five feet away from me was a regular giant with as bad a face as I ever saw. He was just raising his club for another whack at me, and if he had ever landed, it would have been the last I'd ever have seen of this world.

"Turn Me Loose!"

"I jumped back and pulled out my revolver. I always traveled armed in those days, and so did the rest of the baggage-agents, for a man never knew just what was going to happen on a night run. I

"SHE DIDN'T WANT HER CHILDREN BURIED AMONG STRANGERS."

had him covered before he could make a move, and then I backed away to a trunk and kept the gun on him for at least half an hour, till we got to the next town.

"All the way, he was begging and pleading for me to turn him loose, and telling me about his wife and children who'd die of starvation if he went to prison. But I said: 'You didn't think about my wife and children when you tried to brain me, and I guess I won't think about yours.'

"Not that I've ever had children, or a wife either, but neither had he, as it turned out. We turned him over to the police when we ran into the station, and they were glad to get him, for he had a record.

"Those baggage-charmers got away with goods worth a good many thousands of dollars. Their favorite scheme was to steal passengers' checks and claim their trunks at the other end.

"One day there were two girls on the train, and two baggage thieves got into conversation with them. They induced the girls to let them carry their checks, and when I saw what was going on, I stepped up and said: 'Ladies, those men you are with are thieves.'

"It didn't take a minute for those lads to disappear, but they had the girls' checks with 'em. We blocked their game by wiring on to the other end. Those checks never were presented, but we arranged it so that the girls got their trunks.

The Baggage-Charmers.

"One gang used to break into the freight-cars, and when they reached a favorable spot on the line they would throw off whatever they wanted. In Binghamton they had two women confederates, who ran a store for the sale of the stolen goods. They made a barrel of money before Detective Brown, who was famous on the Erie at that time, rounded them all up and sent them to prison.

"I used to meet a good many famous men in those old days. I remember Charles Dickens once took a look in at the baggage-car. He traveled with a lot of baggage, too. Herbert Spencer was another Englishman I met. I knew Henry Ward Beecher well. He used to like nothing better than riding in the baggage-car.

"But it was long before my baggage-car days that I began life on the railroad. In 1848, I left the farm in Sussex County, New Jersey, where I was born, and

started in on the Erie as a bridge-builder. I was at that about a year, and then I turned to car-repairing. In 1852 they made me station-agent at Bergen, New Jersey, and that is where I spent two of the most interesting years of my life. Bergen was the terminal for all the cattle-trains, and I used to meet many of the biggest cattlemen of the country.

A Human Bank.

"I had to collect the money for their freight, and that was the hardest part of the work. In those two years I took in more than $2,000,000, and almost all of it was in money. I didn't often take checks; it was too risky. I took a check for $5,000 once, even though I was suspicious of it at the time. I hurried over to our assistant treasurer with it, and told him to get it into the New York Bank the very first thing in the morning. I was afraid the man would get his cattle away, and that the check would turn out to be worthless.

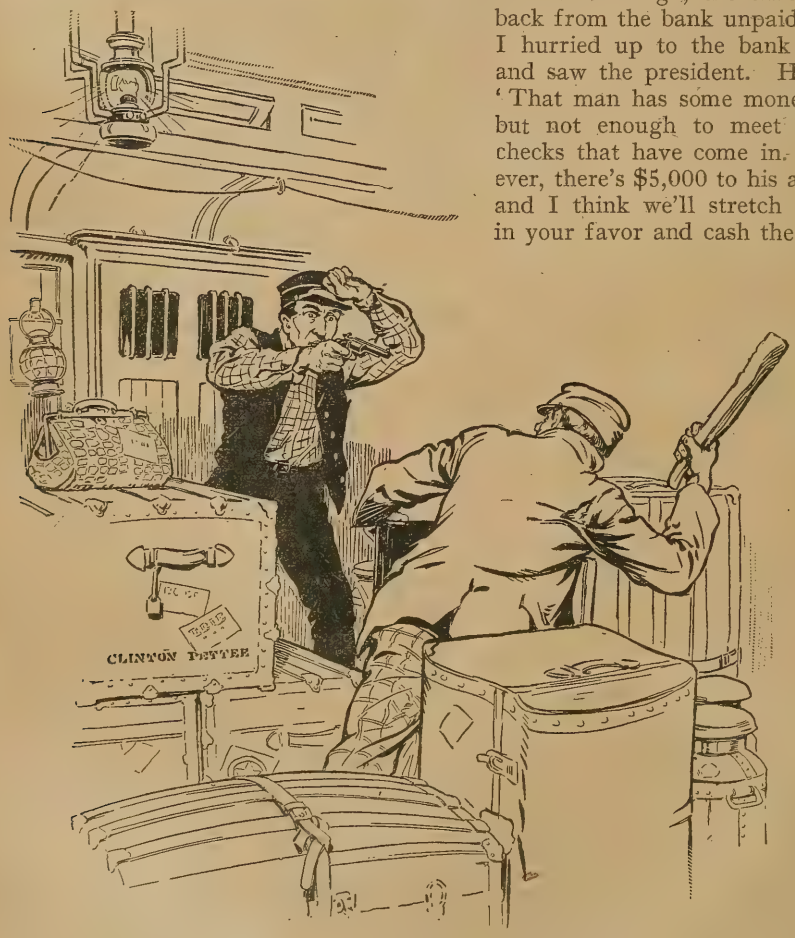
"The next day I was sent up to Twenty-Third Street to settle with a man whose hogs had been lost overboard, and I didn't get back to the assistant treasurer until evening.

"'Did you present that check?' I said.

"He jumped up about two feet. He had forgotten all about it.

"'Well,' I said, 'your forgetfulness has cost the road just five thousand dollars, if there's anything in my suspicions,' for I had already learned that the man had got his cattle away and had sold 'em in the market.

"Sure enough, the check came back from the bank unpaid. Then I hurried up to the bank myself and saw the president. He said: 'That man has some money here, but not enough to meet all the checks that have come in. However, there's $5,000 to his account, and I think we'll stretch a point in your favor and cash the check.'



"I HAD HIM COVERED BEFORE HE COULD MAKE A MOVE."

"But I went out of that bank swearing I'd never take another check from a cattleman.

"That job at Bergen was the most worrisome one I ever had. There were all kinds of money in circulation. It was before the days when the Federal government stood behind a bank's greenbacks. There was a lot of counterfeit money, too. The man who preceded me as station-agent there had been stuck with $600 in worthless currency; and, no matter how careful, I couldn't help taking in a little bad money now and then.

"Sometimes I would take in $30,000 in a day, and I could have gone three or four days without turning in a cent and the road wouldn't have said a word. If I had chosen to be dishonest, I could have got away with $75,000 very easily. Often I used to go to the hotel where I lived and spend the night with thousands of dollars in my coat-pocket.

"One particularly busy day, a gang of thieves hung around the station watching me. I knew some of them by reputation, and I knew they were men who would stop at nothing. When evening came, I had $18,000 in my clothes, and there was a lonely mile between the station and my hotel. I was alone, and the thieves were hovering around pretty close. I expected any minute that they would come for me, and I think they were getting ready when I heard the Cincinnati Express coming down the track.

"I ran out, flagged it, and jumped aboard before the thieves could make up their minds what to do.

"But the job was too risky for me. I quit in 1854, and went to Owego to take charge of the car-repairers, and later of the wrecking-crew.

"When the Civil War broke out, with a lot of other railroad men I went to the front with the Eighty-Second New York Volunteers. We were at Antietam, and at Gettysburg we were in the left center, where none but the veterans were placed.

"We were with the men who withstood Pickett's famous charge. Only eighty-two of the three hundred and eighty-four men in our regiment came out alive.

"After the war I came back to the Erie as baggage-agent. That was in 1865. At first I ran between New York and Buffalo, then between New York and Dunkirk, and, later, between New York and Salamanca. It was most all night-work, and I was glad of it. The nights suit me better than the days.

"Well, I'm here at last in this little room, and all the others are dead. Sometimes I wish I'd married and settled down, and had some children around me. But I guess I was always too busy for that."

WATER-POWER IN EUROPE.

Their Figures Small Compared with Our Estimates, But They Know What They Have.

AT this time, when engineers are just beginning to awake to the possibilities of power provided for them by a prodigal nature by the simple law that causes water to run down-hill, statistics of water-power are of peculiar interest. In no country in the world has nature been so generous in this matter as in our own land.

The vast resources of the country in this field have been only approximately estimated, but even our scant knowledge of them runs into more "horse-power" figures than the mind can grasp. In Europe, however, whether because of the comparative smallness of the task, or because of their further development along lines of conservation, the water-power available is pretty accurately tabulated.

According to Herr Koehn, says the *Electrical Engineer*, of London, England, the available hydraulic power of Europe is distributed as follows: Austria, 6,460,000 horse-power; France, 5,857,000; Germany, 1,425,900; Great Britain, 965,000; Italy, 5,500,000; Norway, 7,500,000; Sweden, 6,750,000; Switzerland, 1,500,000. Russia and the Balkan States, which are among the districts left out of the above list, also possess great possibilities which are as yet unknown and consequently undeveloped.

The Railroad Man's Brain Teasers.

Also Some Headache Cure in the Form of Solutions to Previous Problems.

THE engine-whistle puzzle we published in the October number reminded R. De S. B., of Roseburg, Oregon, of a good one. There are four queries in it. To how many of them can you give the right answer?

Smith, who is a good jumper, is braking on a freight-train running thirty miles an hour, or forty-four feet a second. He stands upon a flat car, and for exercise leaps vertically into the air, his feet leaving the car-deck for, say, one second. Does the car slide from under him while he is in the air, or does he alight on the spot from which he "took off?"

1—If the latter, why?

2—If the former, how much behind the "take off" does he alight?

3—Does the speed of the train make any difference?

4—Would it make any difference if Smith performed his stunt in the aisle of a closed passenger-coach?

The answer to this puzzle will appear in our April issue.

Answers to Previous Brain Teasers.

The puzzles that we have been publishing from time to time during the past four or five months have been attracting so much attention that we have decided to publish the answers to them. In as many cases as possible we are using the solutions given by the propounders of the puzzles, but in some cases the replies are sent in by our readers.

To the problem in the October number there were many lengthy

scientific solutions, but the gist of the thing is briefly expressed by the reader who claims that ten seconds are lost by sound-waves "packing up" in approaching and "stretching out" in receding. In no case does the listener hear the true tone of the whistle.

The answer to Mr. J. R. Conway's puzzles, given in the November number, are as follows: No. 1—Engines move on table with noses together. Turn table one-half. East-bound engine backs off table, and caboose of east-bound train is drawn on. West-bound engine moving over to the other side of the table. Turn table one-half turn. West-bound engine and east-bound caboose move off table. East-bound engine and west-bound caboose move on. Turn table one-half turn. East-bound engine moves off table and east-bound caboose is pushed on table, west-bound caboose moving over to the other side. Turn table one-half turn. Run engines back, couple up, and proceed.

The answer to problem 2 of Mr. Conway's is: No. 1 meets fourteen No. 2's.

In the December number there were three puzzles. The answer to No. 1 is: If the wheels are on the rail and rotate as a rolling body, the upper portion moves faster than the part which touches the rail. Any point in the driver will describe a cycloid curve as the driver rolls on a plane surface. If the drivers are rotated without touching the rail, all parts of the periphery will move around their axes with the same velocity.

The propounder of No. 2 gives as the solution that the link will stand the strain of two engines of equal power, pulling it in opposite directions, each to the limit of the link's capacity.

The answer to the first problem in the January number is:

The man rode four miles and walked one mile.

The answer to No. 1 in the February number is:

The spot on the driver does not travel any farther than the spot on the pony truck-wheel.

Answer to No. 2: The drivers made 5,992 revolutions in ten miles.

Answer to No. 3: The conductor had fifteen cars. Eight cars, which is one-half and half a car over of the total, he put on track 8. Four cars, which is one-half and half a car over the remainder, he put on track 7. Two cars, which is one half and half a car over of the remainder, he put on track 5. One car he put on track 4.

THE DAUGHTER OF THE IDOL.

BY JOHN MACK STONE.

Ruth Turns a Good Trick, but Welch Turns a Better One.

SYNOPSIS OF PREVIOUS CHAPTERS.

ROLAND BURKE is a young boy sight-seeing in San Francisco during a visit to his uncle, Richard Engle, a famous explorer. While standing on the dock he is alarmed by a crowd of struggling men rushing down the street, evidently pursued by the police, and in his astonishment is hustled into the boat for which they are making. One of the men, who is struggling with the others, is kidnaped onto a vessel, and Roland, though unobserved, is also unable to escape. The ship puts out, defying the forts. On the boat he is discovered by Ruth Holland, who also appears to be there against her will, and who seems quite familiar with Richard Engle, though there is some misunderstanding between them. In her cabin Ruth is annoyed by a man named Welch, who seems to have some power among the cutthroats. Engle interposes.

Captain Hawson interferes against the persecution of Engle by Welch, and Welch shows his power by deposing the captain and making him a prisoner. The captain joins forces with Engle, the boy, and Miss Holland. They attempt to recover the ship.

They are captured again, but the captain manages to communicate with a United States cruiser by means of a wireless apparatus in a secret alcove in his cabin. He then puzzles the mutineers by hiding Miss Holland in the alcove.

During various attempts to capture them on the part of Welch and attempts to get possession of the ship by the captain, they near the island.

CHAPTER XIX.

We Reach the Island.

NOT a man stood on the forward deck. Many of the crew were aft, however, huddled at the head of the companionway, Welch and Uncle Dick and the spokesman in the midst of them.

"They'll not harm your uncle, Roland," the captain told me. "He is doomed to die a certain sort of death for having stolen the great aitu, and it is as much as the lives of these men are worth not to deliver him to the island safe and sound in body. But we want to try to get him with us, so we can put up a fight when the island is reached. Every hour we delay them increases our chances of rescue, for every hour the cruiser is rushing toward the island at top speed."

"What can we do?" Ruth asked, drying her eyes.

"If nothing else, we can wait for the night, and make an attempt to rescue him," Captain Hawson replied.

It was past noon then. With the exception that all the men remained aft, there was nothing about the ship to denote anything unusual. She continued plowing her way through the sea, making good time.

Now and then Welch appeared on deck aft to issue orders. He was almost on the point of collapse. The spokesman was the real skipper of the steamer.

Uncle Dick was taken below, and, we supposed, placed in a cabin under heavy guard. The afternoon passed slowly, but finally the sun neared the horizon.

We had not been molested, and had molested no one. Ruth spoke of Uncle Dick continually, anxious to have him rescued before we reached the island. She

made no secret of her love for him. The tropical night came quickly, as tropical nights always do, but it was bright moonlight, and we could see easily every square foot of space on the forward deck. There was little danger of the men creeping up on us unawares.

The hours passed, and still we huddled together up near the bowsprit. No one came near us, but we knew that from aft there were keen eyes watching carefully to see that we did not make an attempt at leaving our place of security.

"We can never rescue him," Ruth Holland said a hundred times.

"Not in this bright moonlight," the captain replied. "It would be folly to make the attempt. We should get separated, and would then be entirely at their mercy."

"Are we going to give him up to death without making an attempt to save him?" she asked.

"There is always a chance to make an attempt," the captain said. "If not tonight, then in the morning. We can perhaps save him even after the island is reached. When they start to take him from the ship there will be a chance."

The morning broke bright and clear, and away to starboard was an island outlined against the sky.

"That is the island," the captain said.

I saw Ruth shudder, perhaps at thought of what she had already witnessed there. The men swarmed to the deck and watched the distant land. Some of them were chanting, all jabbering to each other in their peculiar tongue.

Welch was on deck early, two of the men supporting him. While we watched, the crew carried bolts of cloth from below, and began decorating the ship.

Great golden streamers were thrown from the rigging and hung over the sides. Gigantic devices emblematic of the great aitu were fastened in conspicuous places. An awning was spread aft, and three large chairs fastened to the deck beneath it, and a carpet of gold cloth spread from the chairs to the side of the ship.

We could see the land plainly now; could see a tiny harbor directly before us. The steamer's siren began screeching, and on shore a great column of smoke shot into the air.

Ruth was staring at the land as one dazed. I was wondering what the future held in store for us. Captain Hawson had his eyes upon the deck, watching everything that was done. He was waiting for a chance to attempt a rescue of Uncle Dick.

When we entered the mouth of the harbor a fleet of small boats put out from the shore and made their way swiftly toward us, their occupants cheering and waving their arms. The town was of white huts against a background of tropical green, and in the center was a building larger than the rest.

"That is their temple," Ruth said to me. "It is a temple of horrors."

The steamer's siren was still screeching. Anchor was dropped a short distance from the shore, and the crew, although remaining aft, crowded to the rail and answered the cheers of those in the small boats.

Then a barge, gaily decorated, put out from the shore, and the small boats made way for it as it slowly approached the steamer. In it were men dressed in golden robes.

"The high priest, and the others from the temple," Ruth said.

The greetings were profuse as the barge reached the steamer's side and the priests came on deck. They walked majestically across the golden carpet to the chairs beneath the awning, and while three of them sat down in the chairs, the others grouped themselves behind them.

The one in the center, whom Ruth had designated as the high priest, said something to one of the others, and after a time Welch was led up from below, where he had gone when the barge set out from the shore. He, too, was dressed in a golden robe, and was still supported by two of the men. Although the conversation from this time was carried on in the language of the islanders, I received the gist of it from Captain Hawson and Uncle Dick, who understood it perfectly. The wind carried their words to us.

"You have succeeded, noble one?" the high priest demanded.

"The great god aitu, whom we all worship, has been regained for his people," Welch replied.

The other priests began a chant, and

when it had been ended the high priest spoke again.

"And the man who defiled the god and the temple, what of him?"

"We have him in our custody."

"And the woman decreed to become your wife?"

"She is also aboard ship."

"Where is the ship's commander. We must thank him for aiding in this great work."

Welch tottered and would have fallen had not the men held him up.

"What is your malady, noble one?" the high priest asked.

"Most high priest of the temple," Welch said, "I am suffering from a gunshot wound. When we were a few days from the land where the aitu was found, I scented treachery.

"The commander of this ship was listening to the words of the man doomed to death for stealing the aitu. He was about to allow the doomed one to escape, and for such an act was to receive much money.

"I overheard their conversation, and rebuked the commander of the ship. He attempted to thwart me. I was obliged to take charge of the vessel and to make her commander a prisoner.

"He then began a warfare. Many of our men have been shot by the captain and the others. Time after time we outwitted them, and time after time they outwitted us."

"But you have conquered in the end?"

"The man Engle is below, a prisoner in a cabin. The captain, the woman, and a boy who smuggled aboard, are entrenched forward, and will have to be dislodged. The boy is under sentence, for he has touched the aitu!"

"He has touched the aitu?" the priest thundered.

"It was impossible to prevent it, worthy master. But he shall pay with his life."

"Aye, he shall that!" the high priest answered. "You have done well, noble one, and honors await you. But the woman—what of her?"

"She began the betrothal ceremony and would not finish it."

"Then she, too, must die."

"She has another chance under the law."

"Yes, one more chance."

"What are your commands, worthy master?" Welch asked.

"You are sorely wounded. You must be taken ashore with all honor, and receive medical attention. The aitu must be returned to the temple with all ceremonies. The condemned ones must be taken there for judgment. I have spoken."

The high priest arose, the others grouped themselves behind him, and with the spokesman and Welch leading the way they went below, to the aitu. Soon we heard them chanting, and after a time the priests came on deck again, carrying the great aitu with much difficulty.

It took half an hour to lower it into the barge, for none could touch it except the priests. Then the barge started for the shore, and the people in the small boats and on the beach screamed in applause, while weird music drifted to us across the water of the harbor.

We saw the barge landed, saw the crowd driven back, saw the great aitu taken ashore and placed on a pedestal there, with priests to guard it. Then half a dozen barges put out toward the ship again, filled with armed men.

"They are coming to take us," the captain said.

When the barges reached the ship, half of them were unloaded, and the fanatics swarmed to the deck aft and stood there waiting for orders. The high priest sat in the chair beneath the awning again. Uncle Dick was brought up from below and stood before him.

"Defiler of the temple—" the high priest began.

"I defiled no temple!" said Uncle Dick. "I did not touch your aitu! Look nearer your throne for the one who despoiled you!"

"Silence!" the high priest cried. "These things are to be decided anew before final judgment is passed."

I bent over to the captain.

"Shoot their high priest," I said, "and in the excitement Uncle Dick may be able to reach us."

"Shoot their high priest and we are dead people in a minute!" Ruth said quickly. "There is no way to rescue him now. Perhaps—on the shore—"

She stopped speaking and we looked aft again. Uncle Dick was taken over

the side and placed in one of the barges, and it went some distance from the ship and remained there, a boat-load of armed men guarding it.

"Seize the others!" we heard the high priest command.

I thought I saw a smile on Welch's pale face as he looked toward us and then went to the side and was lowered into another barge.

"I wish I dared put another bullet in him!" Captain Hawson exclaimed.

"Are they coming for us?" I asked.

"Yes," he answered; "and they'll get us, too. There is no hope of escaping them. They will not harm us, for it is against the law. They will rush upon us, and make us prisoners and bind us. We may be able to kill a few, but it will make no difference. They are fanatics, cowardly enough at times, but frenzied demons when their high priest has his eyes upon them."

"Give me one of the revolvers," Ruth said.

"You need not fire at them," the captain replied.

"I do not wish to fire upon them," she said. "I want the weapon. There may come a time when death will be welcome."

We made no reply, and the captain handed her one of his revolvers. She hid it away beneath her dress. Then we filled our two remaining weapons.

We were none too soon, for they rushed us immediately, and we stood up to defend our position better, sending a hail of lead down into the midst of them. Man after man fell, but the others came on, screeching and screaming like wild beings, not a weapon in their hands, for at the high priest's command they had left their weapons behind.

We fought until our revolvers were empty, and then they swarmed upon us from front and rear, and seized us, and bound our arms. The captain fought with all his strength, but it availed him nothing.

I could not fight after my revolver was empty, because my wounded arm prevented it. As for Ruth, they treated her tenderly and with awe; and when we were secure they led her down to the deck first, in all honor, took me second, and then forced the captain to follow us. We were led before the high priest.

I felt his cold, gray eyes upon me, saw him look at Ruth and at Captain Hawson, his face growing sterner.

"I like people who have the courage to fight," he said; "but there is only one end for those who fight against the great aitu and its priests!"

CHAPTER XX.

How Ruth Saved Us.

IN time we reached the shore, each of us in a separate barge closely guarded by a score of armed men. Then the procession was formed, while we were hedged in by rows of fanatics, who approached within twenty feet of us and there stopped, as though afraid we might contaminate them if they came nearer.

At the head was the high priest, the other priests behind him, the great aitu carried on a raised platform borne on men's shoulders.

Then followed a squad of men, and then Welch, reclining in a litter, his face pale, so weak that he could scarcely raise his head to respond to the plaudits of the mob, for they did applaud him as a god.

Ruth followed, armed men before her and behind her, dressed in her golden robes, her hands bound behind her back. She walked with her head held down, and her face was pale, too.

Then came Uncle Dick, guarded most heavily of all; and when the people saw him their faces grew dark, and they uttered loud cries of rage. I followed Uncle Dick.

They seemed surprised to see me, and I thought many of their faces expressed pity. The captain came behind me, still wrestling with his guards. There was a lot of fight left in the captain, and he seemed determined to cause the fanatics all the trouble he could before being hurried to death.

We went up the broad avenue that led through the heart of the village and to the temple. In the open space before the temple there was another crowd of screeching people. As we approached the temple the priests began their chant again, and the crowd parted and made way for them.

Straight into the temple we went, and into a great room with a high dome. The

walls were covered with peculiar devices, and there were candles everywhere. At one end was a great throne with draperies of gold on every side of it; and while we watched, the aitu was carried forward and placed in its old place on the throne.

The guards ranged themselves against the walls, and the people crowded in behind through the doors, as many as could find place. And then, while we stood in the open space in the center of the room before the aitu, the religious ceremony began, and endured for about three hours. It was the most weird thing I have ever seen.

We were so exhausted that we could scarcely stand when it was concluded, and I marveled at the people, who had stood silently through it all, and who even now did not appear anxious to go.

I soon found why—we were to be tried for our lives! The high priest addressed the others, then turned toward us.

"Richard Engle," he said, "step forward!"

Uncle Dick went up and stood before him.

"You are now returned to the temple you desecrated," the high priest said. "It is decreed by our laws that he who touches the great aitu, unless he be a priest of the temple, dies. You were once condemned for that offense.

"While awaiting execution, you managed to make your escape from the temple; it was through your commands that our city was looted, that things sacred to us were stolen and removed, and that the great aitu was taken by soiled hands from his throne to a foreign land.

"For this offense, the law says, you are to die the most terrible of all deaths. What have you to say, Richard Engle, before the great aitu commands your execution?"

Uncle Dick faced him bravely.

"Only this," he replied; "that I touched the aitu on my other visit here through the treachery of a man; that I never took the aitu from its throne nor had it removed from this island; that I respect your religion and all other religions, and would desecrate no temple, whether it be one of Christianity or idolatry."

"You deny your guilt?" the priest demanded.

"I declare that I am innocent of the theft of the aitu!" said Uncle Dick.

"You were carried away in the ship which carried away the god, so I am told."

"By whom?"

"By a priest of the temple."

"Welch?"

"He was so called among people of your kind before he became one of us."

"Suppose I declare that he knows more concerning the theft of your aitu than do I?"

"Such a thing is beyond belief," the high priest declared. "You will gain nothing by trying to throw your guilt on the shoulders of another."

"I have spoken the truth. I am done," said Uncle Dick.

The priest addressed the aitu, then faced Uncle Dick again.

"You die at rise of sun," he said. "You die the most terrible of deaths. I, too, have spoken, and am done."

The guards led Uncle Dick back to us, and the priest then called for Captain Hawson.

"You engaged in an enterprise for money," the priest said. "You promised to carry out our orders faithfully. Now it appears that you attempted to thwart us by rescuing the man you held as prisoner, because he offered you more money than you were to receive from us for an opposite service. And now, what have you to say?"

"I have this to say," the captain cried. "The man who told you that lied! And I have this to say, too—that I started on this trip with the best intentions in the world, but that the scoundrel you have taken into your priesthood convinced me he was dealing double, and I turned against him!

"When I start a thing, I generally finish it! I stand by my friends here, even if it costs me my life; and you can bet I'll fight every minute of the time between now and when I become a corpse!

"And before I die I'll tell you what I think of this blamed island and its people, and its freak of an idol, and its foolish laws. All I want before I die is a chance to get this man Welch by the throat and choke the life out of him!"

"He is a wounded man; he says you shot him," the priest answered. "You

are, therefore, also accused of offering violence to a priest of the aitu."

"I did shoot him, and my only regret is that the bullet didn't strike him in a vital spot," the captain said. "And as far as offering violence to a priest is concerned, let me tell you this: I am a seafaring man, and I have no liking for pirates.

"When this man Welch cooked up his story and took command of my ship against my wish, he became a pirate. I had the right to shoot, and to shoot to kill. The law gives me the right."

"Not the law we know," the high priest said. "You offered violence to a priest—you have admitted it!"

"Then I'll offer more violence to another priest!" the captain cried.

Before the guards could stop him he had the high priest by the throat and was choking the life out of him. Then the guards rushed in, and I beheld Captain Hawson in the midst of them, his great arms swinging, his fists landing like sledges, and men scattered all about him.

But it could not last long. Soon they had him conquered. The high priest arose and straightened his robes, and rubbed his sore neck. There was menace in his eyes and in his voice.

"There is no need for further consideration of your case," he said. "You, too, die at rise of sun!"

Then the guards forced the captain back against the wall. The high priest beckoned me, and I stepped forward.

"You are but a boy," he said, not unkindly, "yet the aitu is angry at you. You touched the idol unknowingly, perhaps; but, nevertheless, the aitu will not be sacred again until your life has paid the forfeit for its desecration. I am empowered to order for you a death more merciful, but the end is the same. You, too, die at rise of sun!"

I was taken back by the guards, without having had a chance to speak a word. Then he led Ruth forward.

"You have been selected as a daughter of the temple," the priest said to her. "You are to become the bride of one of our order. I am told that aboard ship, before the great aitu, you began the ceremony of betrothal, and did not complete it. Such an act means death, unless you agree to continue the ceremony now and to atone by fasting for your reluctance before. What have you to say? Speak at once!"

Ruth raised her pretty head and looked him straight in the eyes.

"When I visited your land before," she said, "I learned your laws and your religion. I am surprised to find that the high priest of the aitu himself wishes to desecrate his temple."

"Woman! What do you mean?" the priest cried.

"You ask why I did not complete a ceremony once started. Did not you yourself, a few minutes ago, say the aitu would not be sacred again until those who had desecrated it had paid the penalty with their lives? Then, the aitu was not sacred aboard ship, for those who had desecrated it still lived. Did I do right, or wrong, to refuse to conclude a ceremony before an aitu not sacred—to refuse to make a mockery of your sacred laws?"

"What is this?" the priest cried.

"Had I concluded the ceremony before the aitu when it was not sacred, before you had purified it again, it would have been a desecration, would it not? Would you want for a daughter of the temple a woman who had desecrated the temple's aitu?"

"Woman, you speak with wisdom," the priest said. "You have honored the temple by your forethought."

He turned to one of the other priests, and gave some orders, and the priest went out. Presently he returned, leading the way for those who bore the litter holding Welch. The high priest told Welch all that had transpired. Welch's face wore the evil smile again.

"It is a trick," he said, "but one which will not serve. The aitu is sacred in part, because it has been placed on its throne."

"That is true!" the high priest said.

"And all that remains to make it sacred wholly is the execution of the two men and the boy!"

"That, too, is true!"

"Then, if they are executed at rise of sun to-morrow, the aitu will be sacred again. The ceremony of betrothal may be held immediately after the execution."

"So be it!" the high priest ordered.

"You see," Welch said to Ruth, "this trick will not serve you, either. It only makes more sure the death of your friends."

"Lead the prisoners to the room of the condemned to await execution," the high priest commanded. "Take the woman in all state to an apartment, let women wait upon her, see that she has every comfort. She has wisdom beyond her years."

Ruth Holland stepped toward him again.

"Stop!" she commanded. "Would you again desecrate the aitu?"

"What does the daughter mean now?" the high priest asked, with fear in his eyes.

"A person may not be condemned except before the sacred aitu, and cannot be executed unless so condemned."

"That is true."

"Then, these men cannot die."

"Why?" the high priest demanded.

"They have not been condemned before a sacred aitu."

"I do not understand."

"The aitu is not sacred until they are executed; and they cannot be executed unless condemned before the sacred aitu. How can you, then, condemn them? Don't you see? Your aitu will never be sacred again."

"Never be sacred again!" the priest cried.

"It can never be," Ruth said. "It cannot be sacred unless these men die, and they cannot die because there is no sacred aitu before which to condemn them!"

Some of the priests began to screech at one another; others to explain the meaning of the scene to the people. Welch half arose from the litter to expostulate, but fell back, weak and senseless. They carried him out to give him attention.

The high priest demanded silence.

"Daughter," he said, "your words trouble me. It is necessary that I consult the laws regarding this peculiar state of affairs. I may require your wisdom in the council-chamber, and if such is the case you will be sent for. Meanwhile, the prisoners are not condemned, and must be treated with courtesy. Guards, remove them to apartments; guard them well, but see well to their comfort, also."

In the excitement of the moment, as they were preparing to move us, Ruth Holland passed within a few feet of where we three were standing.

"Perhaps I have gained a little time," she said.

Her words held meaning for none but we three who knew of the cruiser's coming. Her eyes held meaning for none save Uncle Dick.

CHAPTER XXI.

Captured by the Mob.

IN one corner of the temple was a high tower, and in a room at the top of the tower Uncle Dick, Captain Hawson, and myself were placed as soon as the crowd had been driven from the temple by the priests and the guards.

The people crowded the open space before the temple, refusing to go to their homes. They were talking angrily among themselves.

"There may be trouble," the captain said. "They have got it into their heads that the aitu can never be sacred again, that they are doomed to eternal unrest, and that we are in some manner responsible for the state of affairs."

"It makes little difference to us," my uncle replied. "Only one of two things can happen—either we'll die, or the cruiser will arrive in time to rescue us. If we die, it matters little whether it be at the hands of the priests or the people."

The afternoon passed swiftly. In the evening food was carried to us by the guard. The men looked at us angrily as they passed it to us, and muttered to each other, but neither the captain nor Uncle Dick could catch the meaning of their words.

The night came—a beautiful tropical night, with the bright moon shining through the palms and making the white huts of the fanatics look like silver palaces.

And with the night came trouble.

In the square before the temple the natives had been gathering from all parts of the island since early afternoon. Now several thousand were grouped there in the bright moonlight, jabbering to each other, screaming and screeching. Once or twice the priests went out and addressed them, trying to get them to disperse; but to no avail.

As the hours passed, their frenzy increased, their shouts became deafening. From the tower window we watched them, wondering how it would end. Somewhere

in the temple below us the high priest and his assistants were trying to straighten out the tangle Ruth had caused by her reasoning.

The people, evidently, awaited only the verdict of the priests. If it was against us, all would be well as far as the people were concerned. If it was reported that the aitu could never be sacred again, our lives would not be worth much if we fell into the hands of that mob of frenzied fanatics.

It was midnight, perhaps, when a man in the golden robe of priesthood left the temple and stood high upon the pedestal of a monument in the square, with the crowd surging about him. He waved his hand for silence, then turned half-way toward the temple, that the crowd could see him and his words be better heard.

We saw him, too. It was Welch.

"He's going to make an attempt to make them disperse," the captain said. "Now, we'll see how much influence he has with this crowd."

"They are almost worshiping him to-night because he returned the aitu to them," said Uncle Dick. "They'll probably do anything he tells them to do."

"Listen!" the captain demanded.

The great crowd had become silent, and Welch began to speak in the native tongue. Captain Hawson translated for me.

"Children of the aitu," he said, "I come before you now in an attempt to show what love I have for you in my heart. Some time since I made the journey to a foreign land, and after suffering hardships untold I rescued from the hands of unbelievers the great aitu, your ruler and mine. For the aitu is indeed the ruler, and none of its priests. The great aitu has been returned, and now sits upon his throne. He is as sacred now as ever."

The people began cheering like mad beings, but again he silenced them with a wave of his hand.

"I say it is as sacred now as ever. Without a sacred aitu, my children, we are all lost. Because a woman with a smooth tongue has twisted words, shall we believe the great aitu is not sacred? She has done this thing to confound your priests, and to save from death the men who have desecrated the temple and defiled the god.

"The high priest listens to her words. He is almost ready to announce to you that the aitu is not sacred; that these men must go free, and can never be punished for their desecration. I say to you, my children, that I have just left the council-chamber because the high priest and his assistants are trying to take from you your one great belief. What can we do without a sacred aitu?

"I take my life in my hands to tell you this, for the other priests will be angry at my words. I have done much for you, my children. Will you do something for me?

"Will you stand behind me and say that these men must die, that the aitu is sacred, and that no woman's word can make it otherwise? Will you go with me into the temple and stop the desecration that the high priest and his brethren would work?"

He would have said more, but they stopped him. Shrieks and cries rang out—a bedlam of voices.

"To the temple! To the temple!" they cried. "Kill the unbelievers! We will have a new high priest!"

They surged around the monument upon which he stood, trying to kiss the hem of his robe, praising him in their cries. Some of them tried to lift him upon their shoulders, but he stopped them, and raised his hand for silence again.

"I am weak because of my wound," he told them. "Lead the way into the temple, my children. Work your own will with the priests and the prisoners. Spare the woman, for it is my wish."

"Spare the woman!" they cried to each other.

"Let some of you stand by me, for there are those who seek my life," he said. "Remember the unbelievers in the tower must die, and your untruthful priests must die.

"When that work is done, gather here again in quiet and we will praise the aitu."

"Give us the word, master—give us the word!" they cried.

"Into the temple!" Welch screamed. "I have given you the word!"

Then the bedlam broke out again, and the thousands surged toward the temple entrance, their cries filling the night.

"It is a matter of a short time now," Uncle Dick said. "There is no escape

from the tower, even if we could get out of the apartment."

Captain Hawson ran to the door and tried it, but found it fastened securely. He called to the guard, but there was no response. It was evident that the guard had grown frightened and had fled, leaving us to face death.

While the captain and Uncle Dick worked at the door, trying to force it open, I ran back to the window. The cries of the mob were deafening. They were crowding into the temple, as many as possible. Welch still stood upon the pedestal, half a hundred men surrounding him.

Had any of us in the tower possessed a revolver, it is certain that he would not have lived long.

I thought of the weapon Ruth had hidden in her dress before we left the ship, and wished it were in my possession.

We could hear the screeching inside the temple now. Above the din rose the voice of the high priest, shrill and clear. He was trying to stop them. And then the voice was lost in a tempest of cries, and we heard it no more. But in a few minutes we saw through the window that the high priest and all his brethren had been carried out as prisoners, and were being held before Welch, under strong guard.

"What shall we do with them, master?" the crowd demanded.

"As you will!" Welch cried.

Again the tempests of shrieks greeted his speech, and the priests were hurried away in the midst of the crowd and taken toward the water-front.

But the great majority remained in the temple, and in the square before it, and their shrieks and cries came nearer. They were searching all the rooms for us, searching them one by one, evidently determined that no chance of escape should be given us.

Again we heard their loud cries, and this time Ruth was taken from the temple and carried before Welch.

"Spare the woman!" he cried. "Hold her here before me, and let her not be harmed!"

And so some score of them guarded her, but treated her with deep courtesy, and the others rejoined the mob inside the temple, and renewed the search for us. And soon they had reached the tower and were coming up. We looked at each other hopelessly.

We had no weapons. It would be but the work of half a minute for that mob to enter the apartment and seize us, the work of a couple of minutes to carry us down and place us before Welch, and then—

They were outside in the corridor now, breaking in the doors. We huddled together near the window, waiting.

Then our door came in with a great crash, and the fanatics poured into the room, uttering their weird cries when they saw us. Captain Hawson sprang into the midst of them, striking right and left with his great fists. But his resistance was useless, and it was the last expression of violence he could make.

He was seized and bound, and Uncle Dick and I were taken easily, and then they started to lead us down the corridor, down the long, winding stairs, and to the square. In a few minutes we stood before Welch, the center of a mass of screeching fanatics. Welch demanded silence, and got it.

"Desecraters of the temple," he said, "there is no room for argument in your case. Death is the only thing we can grant you. And it must be a swift death, for the great aitu demands it."

Ruth ran forward to the foot of the pedestal.

"Let me die with them," she implored.

The evil smile came into Welch's face again.

"Death is not for you," he said. "It is my wish that you live, to be my bride!"

"Let me die with them," she asked again.

"No; you must live. The betrothal ceremony takes place as soon as these men have met death."

"A woman cannot go into a betrothal ceremony with a dead man!" she cried.

"What do you mean?" he asked.

Her hand went into her robe quickly, and when it came out something bright flashed in the moonlight—the revolver she had hidden away before we left the ship.

"Don't, Ruth!" Uncle Dick screamed. He knew what would happen if she fired upon Welch—the people would tear her to pieces.

But she did not heed his cry.

"I mean this," she said, in answer to Welch's question.

And then she fired!

CHAPTER XXII.

I Am Chosen to Live.

FOR an instant the wild clamor of the mob ceased. The smoke drifted to one side, and we saw Welch standing against the base of the monument, alive.

Ruth raised the revolver again, the gleam of determination in her eyes, but before she could fire the shrieks of the angry mob rang out, and the guards rushed in and seized her and tore the weapon from her grasp.

Then they stood back, holding her by the arms, and looked up at Welch. He raised his hand, and the mob was still.

"The woman is crazed by the excitement and by her long journey on the sea," he said. "She did not realize what she was doing. You see her bullet did not wound me. The great aitu is merciful to me, and guards me, because I have declared him sacred."

He could turn even such an event as this, then, to his own credit.

"The great aitu has saved the master! The aitu has saved the new high priest!" they cried.

Again they surged toward the base of the monument, praising the hypocrite before them. Again he waved them back.

"You must think no ill of the woman," he said. "She did not know what she was doing. She is possessed, and will be until these defilers of the aitu are slain. She must be placed in her apartment, and allowed to rest. See that it is done. As for these others—it is within half an hour of rise of sun, and they must die then. Take them to the execution-ground!"

The guards closed in upon us again, and again Ruth Holland ran forward and faced Welch.

"Wait!" she cried.

"What does the daughter of the aitu wish now?" he asked.

"Is it true that I am to become the bride of a priest and a daughter of the aitu?" she asked.

"That is true. It has been decreed."

"Then I demand the rights which are mine under the law," she said.

"What rights, daughter?"

"The law says that a woman about to become a daughter of the aitu may spare the life of one condemned man. Is that not so?"

Welch could not deny it. It was a law well known to all the people, for the ceremony was always observed at betrothal. He did not dare risk the anger of the populace by refusing.

"You have spoken truly, daughter," he replied.

"Then I demand the life of one of these prisoners."

"According to the law you may save the life of one, but the one you save must be exiled from the island after having had his cheek branded."

"Such is the law," she said.

"Then I grant you your rights, daughter," he answered. "One shall be saved. He shall have his cheek branded, and shall be sent away from the island on the ship which brought us here. It is for you to say, daughter, which one shall be saved."

She turned and looked toward us, then hesitated. Welch was looking at Uncle Dick, and his face still wore the evil smile. He thought that, of course, she would save Uncle Dick.

And I knew as I watched his face what he was thinking—that Uncle Dick might sail away from the island alive in the ship, but would never reach a foreign port alive. There were too many ready to do Welch's bidding, especially if he told them they would please the great aitu in so doing.

"Which one, daughter?" he demanded. "It is almost time for the execution."

"It is written in the law," Ruth said, "that it is my privilege to save the man on the ground of execution, at the last minute, when the sudden respite from death will make him praise me, and thus bless my marriage."

Welch's face clouded, but he could not deny the law.

"That is true," he said.

"I demand that right also."

"You wish to witness the execution, daughter? Are you strong enough to do so?"

"I may return from the execution-ground as soon as I have made my choice," she said.

"Then let us go to the ground of execution," Welch ordered.

The crowd began to screech again, and a procession was formed. A litter was taken forward, and Welch reclined in it and was carried ahead on men's shoulders. Then the guard formed, and we were placed in the center and urged forward.

Ruth was carried on another litter behind us. And behind her came the thousands of maddened people, cheering and chanting, uttering their weird cries. On and on we marched, half a mile or more.

After a time we reached a large clearing in the midst of the jungle. There was an altar in the center of it, draped in yellow cloth. A circle of sea-shells was around the altar at a radius of twenty feet.

The people formed in columns at the edge of the clearing, and the guard led us forward toward the altar, but outside the circle of shells they stopped. Welch's litter was carried forward and placed upon the ground, and he was helped to his feet.

Then Ruth followed, and stood close beside us. There were tears in her eyes.

Welch walked inside the circle of shells and approached the altar. He removed the golden cloth and threw it to one side. We saw a flat bed of stone, large enough for a man to lie upon. I expected to see blood upon it, for I thought the mob had executed the priests there, but there was no blood. The stone was clean.

Welch seemed to be thinking the same thing. He turned to the guards.

"What did you do with the former priests?" he demanded. "There has been no execution here for some time."

"Master," one of them said, "we dared not enter the circle of shells to execute them, for there was no loyal priest among us. The priests were made prisoners back in the village, and their guards told to bring them out after these prisoners had been executed. They should be here now."

"It is well," Welch said. "When they are brought I shall appoint priests to do the work."

He left the altar and came back to us.

"It is time for you to denote the man you wish to save, daughter," he said.

"I may speak to the men alone first?" she asked.

"Yes," he agreed, and stepped back and motioned for the guards to do the same. Ruth walked nearer us.

"I do not know what to do now," she said. "This was a trick to save all the time possible."

"It is the end," said the captain. "No one can save us now."

"At least I can save one of you," she said. "But I cannot save myself, for I shall take my own life at the first opportunity."

"Ruth!" Uncle Dick implored.

"There is no other way," she said.

"Hurry, daughter," said Welch.

"I do not know what to do," she said to us.

"Do not let me concern you. Count me out," Captain Hawson said. "I have lived my life. I am not afraid to die. Either of the others is worth more to the world than I."

"You are a brave man," Ruth said.

"It lies between Mr. Engle and Roland," the captain responded.

Ruth looked Uncle Dick in the eyes, and for a moment they stood thus, trying to read each other's thoughts. Then she looked at me, and her eyes filled.

"The boy," my uncle whispered to her.

She stepped nearer him.

"Death must claim me soon," she said. "Perhaps, if you love me, it is better we leave the world together."

"I love you enough to die with you," my uncle said.

"Then you believe in me at last?"

"Yes," he whispered.

"I can die happy now," she said, "just when I could live most happily."

She took another step toward him, and in an instant they were in each other's arms, and their lips met. Welch uttered a cry, and staggered toward them. The guards made no move, not knowing what to do.

But before Welch reached them they had separated, and Ruth had staggered away from him.

"Which one, daughter?" Welch demanded. "Is it to be this man?"

He pointed at Uncle Dick.

"No!" Ruth cried. "I save the boy, Roland!"

(To be continued.)

ON THE EDITORIAL CARPET.

Side-Talks With the Man Who Sits in the Cab of the Magazine and Is Commonly Called an Editor.

THIS month we are bringing out of the construction shop a fine piece of rolling stock which we have been promising for some time past. It is a serial by J. Aubrey Tyson. You are quite used to seeing this designer's work on our main line, and, judging by the letters we received when we sent "The Man of Straw" and others over the track, you will be getting something that you like in "Without Lights," the present story.

We are now confronted with the most pleasant task of the month: talking about next month's lay-out. It's a peculiar thing in human nature, this thing of talking about what you are going to do.

It seems as if everybody carrying a pound of steam has to work it off or blow it off. Everybody with an ambition, or a hope, or an idea, enjoys talking about it. There's something inspiring about it.

We enjoy talking about next month's lay-out because it indicates two things—a work well done in the number we are closing and the pleasure of good work to be done in the number we are promising. We are not, however, of the kind that has to blow off steam to prevent it from blowing the boiler-tubes through the sand-dome. The pleasure we take in talking is the pleasure that men take when they have something to say that somebody else wants to hear.

Some people shoot off their exhaust for the pleasure of making a noise like a consumptive rhinoceros, regardless of the fact that their drivers are slipping four revolutions for every inch they make. They need a pusher, but they don't know it.

When you see the April number you'll realize that we are not talking without saying something. We are pulling a fine string of fiction. We shall possibly switch in a new railroad serial by a man whose work in this magazine has proved second to none in pleasing either the readers or the editors.

We don't want to be too specific about this, because there are so many exigencies in the making up of a magazine-train that when we promise you something as good as this we like to be certain that all our couplings are made and in order. It's too good to cause disappointment.

In the matter of short stories we shall probably run seven cars, and there won't be a flat car nor a flat wheel in the whole bunch. Three such names as Robert Fulkerson Hoffman, J. R. Stafford, and Augustus Wittfeld, can be trusted to carry any issue up the steepest grades you can mention, and the other stories will not put all the pull on these three either.

Besides stories by these authors there will be as well-told a story as we have run in many a day by a new author, Mr. William D. Ball. It is called "How Komo Bill Went East" at the present time; but before the fine-toothed comb is passed through it for the last time it may emerge with some other title. Anyhow, look for William D. Ball.

"Donnelly's Hunch," by H. H. Giebler is just as good in a slightly different way. It is a railroad story, and we guess we know a thing or two about railroad stories.

Then there is a story of a million dollars on exhibition. Better read up on that, so that if ever you come across a stray million dollars, either on exhibition or not, you will know it when you see it. Our True Story, "Old Dutch Cheese," is very funny.

But in spite of the fact that this is one of the best fiction numbers we have ever put out, we think the fiction will have to take second place to the special articles.

The star feature of these will be the first of a new series by R. H. Rogers, especially intended for young men who want to learn practical railroading. The first subject is the work of "The Railroad Apprentice."

Very few writers enjoy the confidence of their editors as Mr. Rogers enjoys ours. He has, to a greater degree than any man we know, the knowledge of the operating end of a railroad, combined with the ability to tell others what he knows in such a manner as will interest them and instruct them. As a railroad man of high standing he speaks with the authority which few writers, no matter how familiar with the subject, can speak.

His knowledge of his subjects is only equaled by his modest and sympathetic attitude, and this, with his able pen, forms a combination of rare effectiveness.

We regard this series by Mr. Rogers as one of the most important we have ever put on the line.

Arno Dosch will have something to say about the progress that is being made in railroad signaling, and Willard D. Eakin about the hardships of the railway mail service.

For the old-timers there will be the romantic history of that one-famous engine, the New York Central's No. 999.

J. E. Smith contributes the twenty-third observation of a country station-agent—an observer who is never tiresome. This time it is the lonely crossing watchman whom Brother Smith writes about. There are some human phases to the humblest job.

Do you know why every railroad has a trade-mark and the story behind that trade-mark? If not, you will know when you read our April number.

"Get out of town!"

SPARK-ARRESTERS.

WE have found ourselves out. On looking through the February magazine we find ourselves making a weird statement which we know will cause all good railroad men to think we ought to be drawn in little bits through the exhaust of a Mallet articulated compound—gently, of course, so as not to hurt us in any way.

In the "Recent Railroad Patents" article, questions and answers department, a reader asks if spark-arresters are in general use. By a slip in the composing room, Mr. Smith was quoted as replying that there were few spark-arresters in use.

Of course, Mr. Smith knew, and we knew, and the compositor knew, and the proof-reader knew, and probably the news-dealer knew that every locomotive in New York State, and most likely in nearly every State in the Union must, to conform with the law, be fitted with a spark-arrester. By some slip the word "patented" was left out, and the answer should have indicated that few "patented spark-arresters" are in use.

It seems like a very small thing, but the leaving out of a word resulted in a perfectly sensible answer being converted into one that made us feel as if we had been arresting sparks and other things all night.

AMONG THE SINGERS.

WE have three inquiries for songs. One gentleman, writing from Fruitvale, California, says one or two very nice things about us, then asks us if we can give him the words of the song, "From the Cradle to the Grave."

Another gentleman, living at O'Brien, Florida, sends, with a subscription to the magazine, the following request: "Please ask some violinist of the railroad army to send me the song of 'Sherum.'"

Another reader from Anniston, Alabama, quotes the first line of a song, "Yonder comes old F. & B., the fastest on the line," and asks us if we can supply the rest of the song.

Will gentlemen with tuneful natures and long memories see if they can help us and our friends in these matters.

PERPETUAL MOTION CLAIMS.

AS we anticipated, we have received quite a number of letters discussing our recent articles on perpetual motion. We called the theory "The Greatest of Delusions," and much as we sympathize with the people who have worked patiently for many years on this problem, we fear that we have as yet found no reason to change our opinion.

All the letters we have received that have made any claim, have stated merely that the writer has solved the problem. Of course it could hardly be expected that such a badly stated claim would convince us of its own accuracy.

Therefore, if we seem skeptical, and still persist in calling this search "The Greatest of Delusions," we trust that our correspondents will realize that while we have every sympathy with their ambitions, a statement is not a proof, and that we cannot give space to letters making such large claims on such small grounds.

Frankly, we do not believe that the secret of perpetual motion has been discovered. We are in grave doubt whether such a secret exists or not. Perpetual motion would be a contradiction of all present known natural laws, of which the key-note is, action and reaction.

If we thought that this statement would discourage any of our friends from following what we feel to be a will-o'-the-wisp, we should make it gladly, but as it is, we make it rather sadly, for we fear that people will still continue to hunt for this elusive Jack-o'-lantern and will still be disappointed.

One reader suggests that some millionaire become interested in his invention to the extent of ten thousand dollars. He says that a millionaire would not feel this any more than he himself would feel the cost of a postage-stamp.

We fear that our friend is confronted

with another delusion even as hard to overcome as that of perpetual motion. Ten thousand dollars is a large sum of money to any but the most profligate and extravagant.

Millionaires are usually millionaires because they have accurately gaged the real value of money. Their attitude toward ten thousand dollars is probably one of much greater respect than that of the irresponsible people who let the figures roll off their tongues with even greater ease than they ask for a postage-stamp.

THE FACE ON THE BARROOM FLOOR.

TO the many readers of "THE RAILROAD MAN'S MAGAZINE," who in response to W. H. K., of Oakland, California, in our January issue, sent us the words of this famous poem, we extend our sincere thanks. We are very glad to give it a place in the cluster of classics which the readers of the Carpet find so popular. Open her up:

THE FACE ON THE BARROOM FLOOR.

By H. Antoine d'Arcy.

'Twas a balmy summer evening, and a goodly crowd was there,
Which wellnigh filled Joe's barroom on the corner of the square;
And as songs and witty stories came through the open door,
A vagabond crept slowly in and posed upon the floor.

"Where did it come from?" some one said. "The wind has blown it in."
"What does it want?" another cried. "Some whisky, rum, or gin?"
"Here, Toby, sick him, if your stomach's equal to the work.
I wouldn't touch him with a fork; he's as filthy as a Turk."

This badinage the poor wretch took with stoical good grace;
In fact, he smiled as though he thought he'd struck the proper place.
"Come, boys, I know there's kindly hearts among so good a crowd.
To be in such good company would make a deacon proud.

"Give me a drink—that's what I want—I'm out of funds, you know.
When I had cash to treat the gang, this hand was never slow.
What? You laugh as though you thought this pocket never held a sou;
I once was fixed as well, my boys, as any one of you.

"There, thanks; that's braced me nicely; God bless you one and all;
Next time I pass this good saloon, I'll make another call.
Give you a song? No, I can't do that, my singing days are past;
My voice is cracked, my throat's worn out, and my lungs are going fast.

"Say, give me another whisky and I'll tell you what I'll do—
I'll tell you a funny story, and a fact, I promise, too.
That I was ever a decent man not one of you would think;
But I was, some four or five years back. Say, give me another drink!

"Fill her up, Joe, I want to put some life into my frame—
Such little drinks to a bum like me, are miserably tame;
Five fingers—there, that's the scheme—and corking whisky, too;
Well, here's luck, boys; and landlord, my best regards to you.

"You've treated me pretty kindly, and I'd like to tell you how
I came to be the dirty sot you see before you now.
As I told you, once I was a man, with muscle, frame, and health,
And but for a blunder, ought to have made considerable wealth.

"I was a painter—not one that daubed on bricks and wood—
But an artist, and, for my age, was rated pretty good.
I worked hard at my canvas, and was bidding fair to rise,
For gradually I saw the star of fame before my eyes.

"I made a picture, perhaps you've seen, 'tis called the 'Chase of Fame,'
It brought me fifteen hundred pounds, and added to my name.
And then I met a woman—now comes the funny part—
With eyes that petrified my brain, and sunk into my heart.

"Why don't you laugh? 'Tis funny that the vagabond you see
Could ever love a woman, and expect her love for me;
But 'twas so, and for a month or two her smiles were freely given,
And when her loving lips touched mine it carried me to heaven.

"Did you ever see a woman for whom your soul you'd give,
With a form like the Milo Venus, too beautiful to live;
With eyes that would beat the Kohinoor, and a wealth of chestnut hair?
If so, 'twas she, for there never was another half so fair.

"I was working on a portrait, one afternoon in May,
Of a fair-haired boy, a friend of mine, who lived across the way,
And Madeline admired it, and, much to my surprise,
Said that she'd like to know the man that had such dreamy eyes.

"It didn't take long to know him, and before the month had flown,
My friend had stolen my darling, and I was left alone;
And ere a year of misery had passed above my head,
The jewel I had treasured so had tarnished and was dead.

"That's why I took to drink, boys. Why, I never saw you smile,
I thought you'd be amused, and laughing all the while.
Why, what's the matter, friend? There's a teardrop in your eye;
Come, laugh like me; 'tis only babes and women that should cry.

"Say, boys, if you give me just another whisky I'll be glad,
And I'll draw right here a picture of the face that drove me mad.
Give me a piece of chalk with which you mark the baseball score—
You shall see the lovely Madeline upon the barroom floor."

Another drink, and, with chalk in hand, the vagabond began
To sketch a face that well might buy the soul of any man.
Then, as he placed another lock upon the shapely head,
With a fearful shriek, he leaped and fell across the picture—dead.

A NEWSPAPER RUNAWAY.

AS a further illustration of what one of our readers wrote to us about some time ago, *apropos* of the wonderful feats performed on railroads—according to the newspapers—we would like to call attention to the following.

A Sunday newspaper, desirous of running a good railroad story, hit upon an incident on the Lehigh Valley, and it hit upon it with great effect. Yardmaster Thomas Normile and Engineer Bill Burke of Sayre, Pennsylvania, were the heroes of the feat and they had every athlete, aeroplanist, and Japanese tumbler up in the air and gasping for breath.

An engine, No. 359, by some means got under way and went out of the yards at Sayre, without control. Then Mr. Normile began to use wild-west oratory and perform marvels of daring and agility—according to the newspaper.

To quote one or two of the realistic sentences:

"Tom's vocabulary was limited, but his resources—where the rolling stock of the Lehigh was concerned—were practically boundless. Tom flew back to the station and phoned to the train despatcher to stop the fast freight at Milan, if not already too late.

"It was, but Tom had not waited even a second for a reply. He rounded up the crew of one of the switch-engines, who were taking their night lunch-hour on the platform, and said to the engineer, Bill Burke, as they leaped aboard:

"'We must catch 346 before she meets the fast freight coming this way lickety-split, or there'll be something doing, I can tell you!'

"'We'll catch her or bust,' answered Burke, as he jerked the lever, 'we've *got* to catch her!'"

Then began the chase. We wish we could take our readers with us on that chase. We are quite sure they never went on one anything like it.

At last, having got both engines going at the speed requisite for the performance of a great, brave feat, fifty miles an hour—no feat is ever performed in any newspaper at less than fifty miles an hour, and it ought to be sixty—Engineer Burke, as his engine came alongside, "*mounted the tender, and carefully calculating his flying leap, sprang and landed in the tender of the runaway.*"

The "story" continues:

"That was an anxious moment for Normile, in which he watched eagerly to note whether the feat had really succeeded. The jumper might have fallen and be lying unconscious in the tender. If so, a disaster meant his death also. Presently—it was only the work of a few seconds—there was a grunt at the levers of the runaway.

"The reverse had been applied by the rescuing hand. The madcap 346 came to a stop only a few feet away from JB-5, whose headlight glared upon her rear as if in reproach and indignation."

Then follows a touching dialogue between the yardmaster and the engineer, and the newspaper account closes with the comment: "But it was Normile's generalship all the same."

When we saw this fearful and wonderful story we were curious. Whenever we are curious we have to satisfy ourselves or smash a side-rod. We quote a letter from the general manager of the company satisfying our curiosity:

"It appears that the throttle on this engine had been left open while making repairs, after the fire had been dumped, and after firing it up, and it gained sufficient steam to move, it started backward, the reverse-lever being in the back motion.

"The switches were all set so that the engine moved back onto the west-bound track, east of Packer Avenue bridge, and at the time it left the switches on to the west-bound track, was moving about twelve or fifteen miles per hour.

"Our yardmaster, Mr. Normile, stood near the switches, east of Packer Avenue bridge, and noticed the engine moving backward, and at once came to the conclusion that there was no man in charge. One of the switch-engines in charge of Engineman Burke was switching in the east end of the Auburn division yard under Packer Avenue bridge, and Normile at once ran over, cut the engine off, and started east on the east-bound track.

"They overtook engine 359 before it rounded the curve west of Athens, and as the speed of the engine was reduced to about ten miles per hour, Engineman Burke stepped from the side of his engine on to the 359 while the engines were alongside of each other, moving.

"He at once stopped the engine and ran same back to Sayre. The engine was caught and brought back to Sayre before JB-5 arrived, the men on JB-5 not knowing anything of the occurrence until it was talked of later."

THANKS FOR BOTH.

MR. THOMAS H. DICKSON, JR., of St. Paul, Minnesota, took the trouble to clip the little poem, "The Right Track," from the St. Paul *Pioneer-Press*, and appended it to a letter to us, in which he says: "As one who for some years engaged in railroad service, I would express my commendation and appreciation of your effort to make a thoroughly worth-while magazine for the railroad boys." Thanks! And we gladly print the poem:

THE RIGHT TRACK.

Are you upon the right track, my friend?
Are you running upon the right rail?
The way is long and the pace is swift,
And you want to be sure of the trail.
Don't open the throttle and give her steam,
Through the day so bright and night so black,
Unless you are sure your way is secure,
Unless you're upon the right track.

The track that is right is the track that's clear,
Be sure it is the one you choose;
No head-on collision to throw you off,
And no signal-lights to confuse.
You will have up-grade, and down-grade, my friend,
Through ledges and tunnels so black;
But you can just fly like a bird a-sky,
If you are upon the right track.

The rails of life they are right and left,
And they lead you to right and wrong;
They are up and down, they are in and out,
And the run is hard and long.
The station, Reward, is the terminal
For the engine that never turns back;
There is joy for you when your train is due,
If you've made it upon the right track.

FROM A TRAVELING SALESMAN.

MR. ALBERT L. TERSTEGGE, a traveling salesman of Richmond, Kentucky, sends us the following letter, which we publish with the most becoming modesty known to us, which is to turn as red as the crown sheet of a mogul. At the same time we thank Mr. Terstegge for his kindness and his sentiment:

I have read THE RAILROAD MAN'S MAGAZINE from the very first, and consider it one of the best magazines on the market. There is always lots of information in each number—information that a person may, and, very likely will, have use for if he has to travel to any great extent, as I do.

Then, again, the stories, while fiction, seem to me so much more possible—that is, more likely to happen in actual life—than the stories in other magazines. Even in these stories you find out something you didn't know before, as well as in the regular instructive articles.

A salesman is out on the road most of the time, and, unlike the railroader, rarely has a home. In his work he needs cheer, brotherhood, and good-fellowship; and, if any man don't possess more of these qualities after reading THE RAILROAD MAN'S MAGAZINE, he "sure ain't much of a man."

It puts you right next to the boys who have to do with your tourist book, and to whom you are very often tempted to quote the Bible when you miss a connection or something. But, after reading THE RAILROAD MAN'S MAGAZINE, you begin to see that maybe the trainmen don't deserve "cussin'" any more than *you think* you deserved the last calling down you got from the house.

Keep the good work up.

IMITATING HOBOES.

IT is, of course, quite impossible for any magazine to be responsible for all the impressions and ideas conveyed between its covers. Different minds interpret them in

different ways, and the editor who could know exactly what effect every line would have upon every reader would be one of those perfect beings who do not belong on this earth.

At the same time, a letter we have just received from a reader is responsible for a feeling within us that we ought to utter a grave warning.

He says: "I am a railroad man and have known this fellow Welch, or 'Penn,' as he calls himself, for a long time. His poetry and other matters he gives out cause many boys to leave their homes.

"My brother, after reading his poem in THE RAILROAD MAN'S MAGAZINE, issue of January, 1910, remarked, 'I will try and do just as he does it.' And, sure enough, the kid was practising cutting conductor punch-marks an hour afterward, making him liable to arrest for forgery."

We don't often get solemn in this department, but we would like to say a few things to boys whose ambition may lead them in the direction of imitating hoboes.

There is more in life than a picturesque and romantic atmosphere. Remember that behind the romance is the dirt, the wasted opportunity, the wasted life, and the dissatisfaction that you are quite unable to understand at this time.

The sly or shrewd tricks of men whose sole pride is how much and how often they can beat a railroad or a citizen, are quite unworthy of anybody's imitation. What the reasons of these men are, whether they are real or imaginary, why they are at war with all that is legal and orderly and self-respecting, we do not know.

Some of them doubtless feel that they have bitter cause to be at war with everybody. Probably they are mistaken.

But one thing is certain, that no boy with a good home—or even a bad one—with a clean mind, strong body, and clear intelligence, will find anything in their conduct or means of living that he ought to imitate. He is far and away above them in all the better and happier things of life, and if he imitates them, he must of necessity go downward and not upward to do so.

We do not mean to imply by all this that the ordinary bright, happy boy should despise the unfortunate man who is, or feels himself to be, forced to these tactics; but there is not the slightest reason in this world why any boy should, of his own deliberate free will, become what these men have degenerated into, through misfortune of one kind or another, and through a bitterness which only years can understand.

Perhaps our readers will retort by asking us why we print stories and poems representing the tramp in more or less attractive guise, if our real attitude to him is what we have just stated. Our answer is that the tramp has become a necessary feature in railroad literature. He has become a part of the romance of the railroad. His picturesqueness there is no possibility of denying, any more than one can deny the picturesqueness of certain rovers of the sea, but at the same time, no sensible boy is anxious to merely make "copy" for picturesque literature.

THE SUNNY SOUTH.

WE don't like to say "I told you so"—at least we say we don't—but we cannot help once more calling the attention of our readers to a matter on which we have previously held forth with what we call wisdom.

On various occasions we have advised our friends against seeking employment in the Southern republics and even in Mexico. We are reminded of this by reading the following letter which we take from the *Locomotive Firemen and Enginemen's Magazine.*

"Should any more firemen ask you about the ways and means of this country, just ask them if they are making their board. If the answer is no, then tell them that they are one hundred per cent better off there than here, anyway.

"Here is a little dope, and if any of 'em are equal to the game, tell 'em to come on. Last week one fellow got off the track twenty-one times in sixty-two kilometers. We make bets as to whether we are on or off the track. I was in the worst wreck of the season so far—two rail lengths of track washed away. It was all of an undermine nature—couldn't tell it till things began to pile up. It has rained for nearly two months, and as I am on the road every night, you may know that I am just like a drowned rat. At times you can't see ten feet ahead of the engine with an electric light, it rains so heavy. Will not endeavor to give you all risks assumed by men on the engine here, but I assure you that any of 'em that think they're up against grief in the railroad line in the U. S. A. don't know the meaning of the word in comparison with this neck o' the woods.

"I've drank water here that was too dirty to bathe in. Was on one four (24 hours) days' trip and got seven hours sleep, and not any eating to amount to anything. The pay is nothing; 12 hours per day, $4.48 Mexican, 48 cents per hour overtime; engineers, $8 Mexican money, with same hours; 75 cents overtime; 1 hour and 35 minutes constitutes one hour; in fact, 1 hour and 35 minutes for every hour."

Keeping things warm

If some one is late to the meal, you can keep the food warm, or you can keep nice and hot those plates and dishes that must be served so, to be tasteful and relishable, by placing in your dining-room one of our oven-radiators.

AMERICAN RADIATORS & IDEAL BOILERS are the highest achievement in house warming and domestic economy. IDEAL Boilers save the cost of the entire outfit in a few years and AMERICAN Radiators distribute Florida weather throughout the house. Anyone can care for an IDEAL Boiler. It is automatic and absolutely safe. AMERICAN Radiators supply a gentle warmth without the dust and dirt of hot-air furnace, stove or open fire. They are designed as a part of the general scheme of home comfort, economy, and beauty and so made as to collect no dust. The oven-radiator is but one of many kinds designed to add comfort to the home and decrease labor.

A No. W-2-25 IDEAL Boiler and 500 ft. of 38-in. AMERICAN Radiators, costing the owner $245, were used to Hot-Water heat this cottage.

At these prices the goods can be bought of any reputable, competent Fitter. This did not include cost of labor, pipe, valves, freight, etc., which installation is extra and varies according to climatic and other conditions.

ADVANTAGE 16: Air must be supplied under the grate to the fuel in the fire-pot, in addition to a proper amount through the fire-door slide over the top or face of the fire to mix with the flame and free fuel-gases, and thus to cause good, sharp, complete combustion. In proportion as the right amount of air is supplied, at right points, the right economy in fuel is secured. The air-burning features of IDEAL Boilers are as fully developed as in the highest forms of modern gas and oil burners. Ask for our free catalog, "Ideal Heating," which tells all the advantages.

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July 16, 1909.

International Correspondence Schools,
Scranton, Pa.

Gentlemen:—

"It was the 26th day of June the Manager sent for me to come to his private office. As I made my way to the office I was thinking what I could have done to be discharged. I was received with a friendly 'sit down, Dave.' At the time I was working on repair work and was as greasy as grease and flour would make me. I cannot express my surprise when the Manager said: 'I have had my eye on you for a long time and I am going to make you Superintendent. Will you take the place?'

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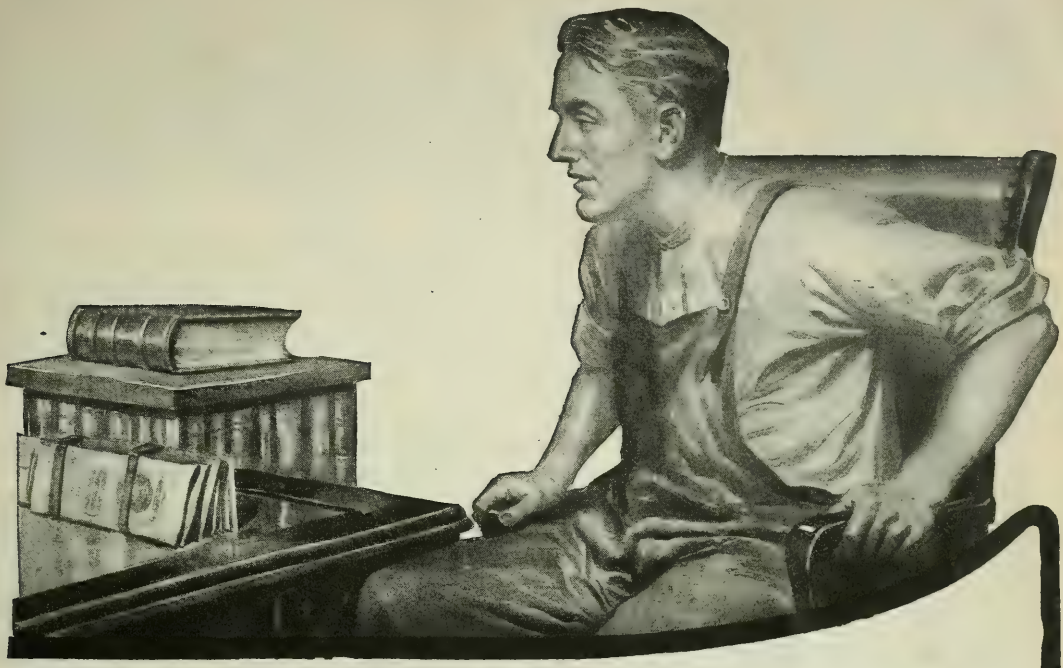

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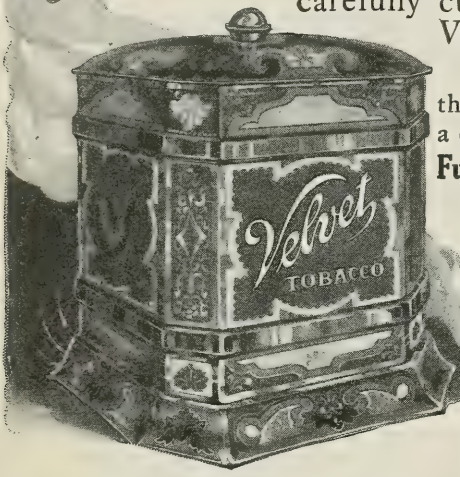

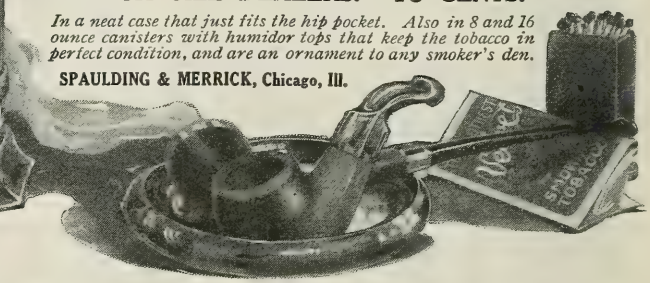

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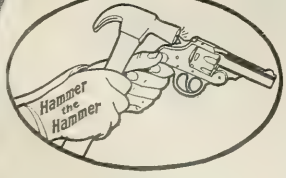

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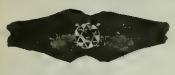

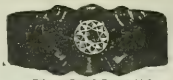
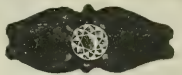

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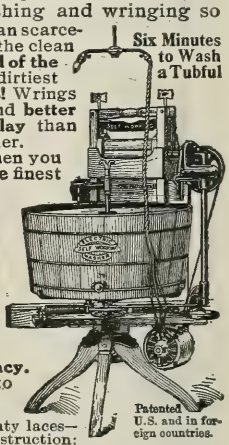

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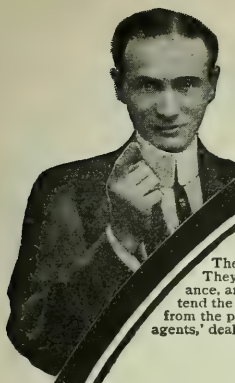

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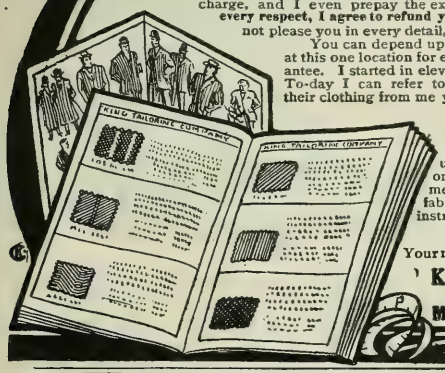

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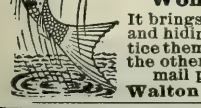

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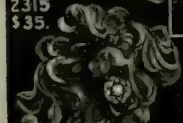

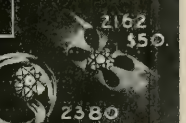

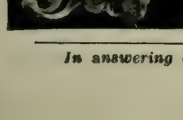

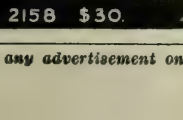

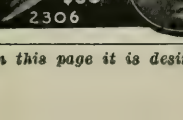

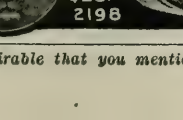

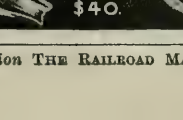

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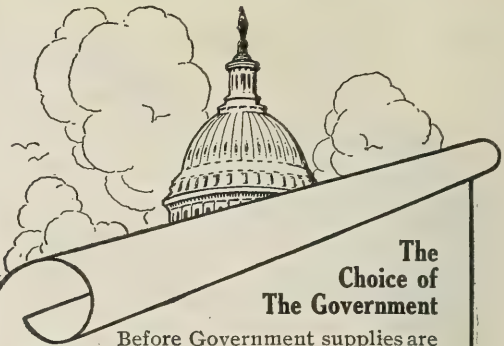

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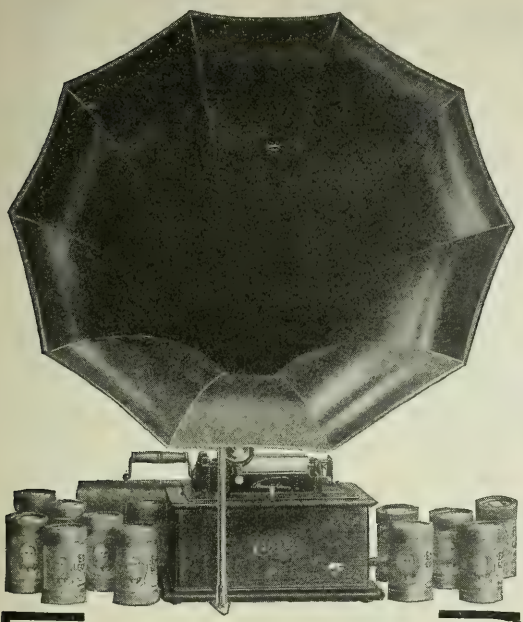

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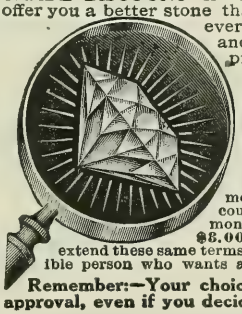

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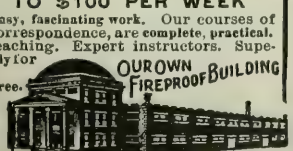

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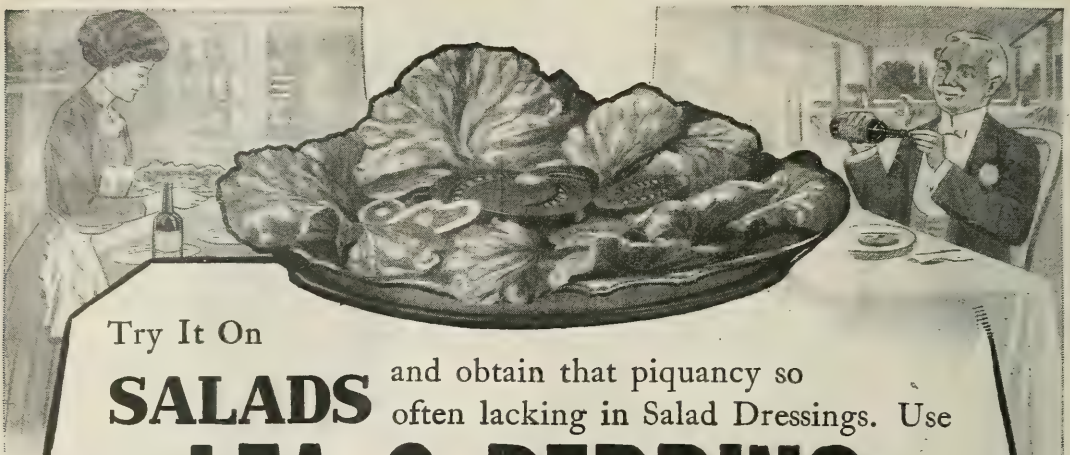

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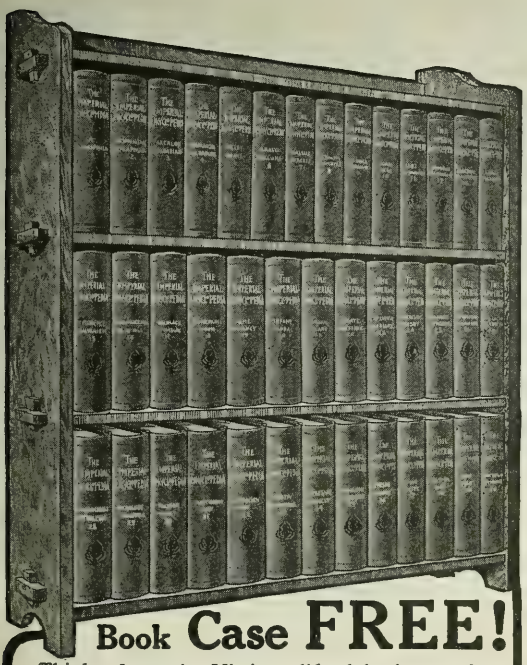

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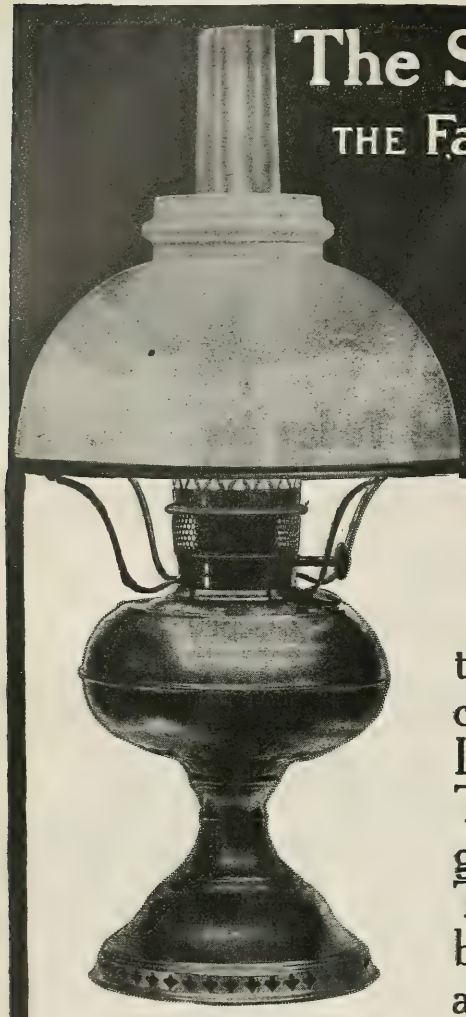

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TO the average poultryman that would seem impossible and when we tell you that we have actually done a $1,500 poultry business with 60 hens on a corner in the city garden 40 feet wide by 40 feet long we are simply stating facts. It would not be possible to get such returns by any one of the systems of poultry keeping recommended and practiced by the American people, still it is an easy matter when the new

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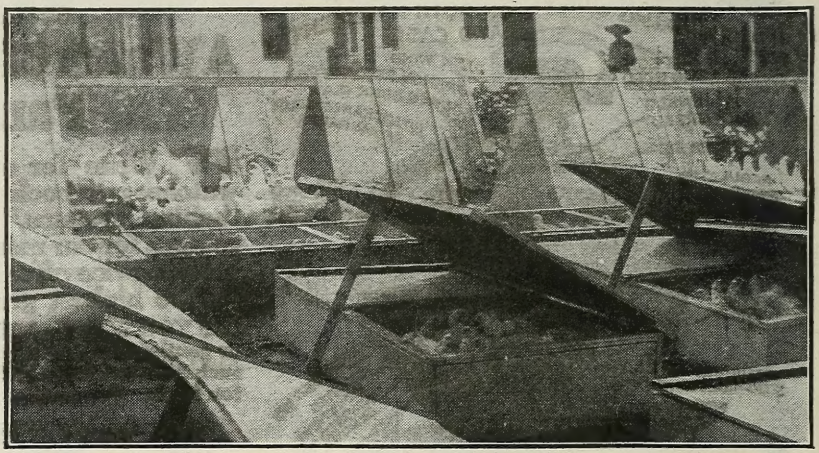

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and in many respects just the reverse, accomplishing things in poultry work that have always been considered impossible, and getting unheard-of results that are hard to believe without seeing.

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are raised in a space of less than a square foot to the broiler almost without any loss, and the broilers are of the very best quality, bringing here three cents per pound above the highest market price.

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One of our secrets of success is to save all the chickens that are fully developed at hatching time, whether they can crack the shell or not. It is a simple trick and believed to be the secret of the ancient Egyptians and Chinese which enabled them to sell the chicks at 10 cents a dozen.

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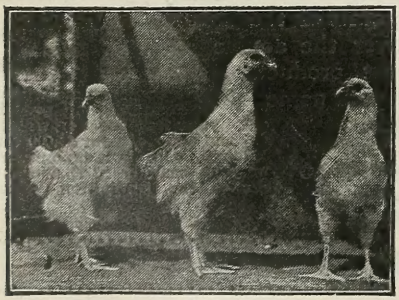
Bellefontaine, Ohio, June 7, 1909.

Mr. E. R. Philo, Elmira, N. Y.

Dear Sir:—I just want to tell you of the success I have had with the Philo system. In January, 1909, I purchased one of your Philo System books and I commenced to hatch chickens. On the third day of February, 1909, I succeeded in hatching ten chicks. I put them in one of your fireless brooders and we had zero weather. We succeeded in bringing through nine; one got killed by accident. On June 1, one of the pullets laid her first egg, and the most remarkable thing is she has laid every day since up to the present time. Yours truly, R. S. LaRue.

Valley Falls, N. Y., Sept. 10, 1909.

My dear Mr. Philo:—I want to tell you how pleased I am with my use of the Philo System during the past year. The fowls laid exceptionally well in the New Economy Coop, much better in proportion than those in my old style house. The fireless brooder has solved the problem for me of raising extra early chicks. I am going into your methods more extensively this coming year. Wishing you success, I am, sincerely yours, (Rev.) E. B. Templer.



THREE POUND ROASTERS TEN WEEKS OLD

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Dear Sir:—I have followed your system as close as I could; the result is a complete success. If there can be any improvement on nature, your brooder is it. The first experience I had with your System was last December. I hatched 17 chicks under two hens, put them as soon as hatched in one of your brooders out of doors and at the age of three months I sold them at 35c a pound. They then averaged 2 1-2 lbs. each, and the man I sold them to said they were the finest he ever saw, and he wants all I can spare this season. Yours truly A. E. Nelson.

Elmira, N. Y., Oct. 30, 1909.

Mr. E. R. Philo, Elmira, N. Y.

Dear Sir:—No doubt you will be interested to learn of our success in keeping poultry by the Philo System. Our first year's work is now nearly completed. It has given us an income of over $500.00 from six pedigree hens and one cockerel. Had we understood the work as well as we now do after a year's experience, we could easily have made $1000.00 from the six hens. In addition to the profits from the sale of pedigree chicks, we have cleared over $960.00, running our Hatchery plant consisting of 56 Cycle Hatchers. We are pleased with the results, and expect to do better the coming year. With best wishes, we are, very truly yours, (Mrs.) C. P. Goodrich.

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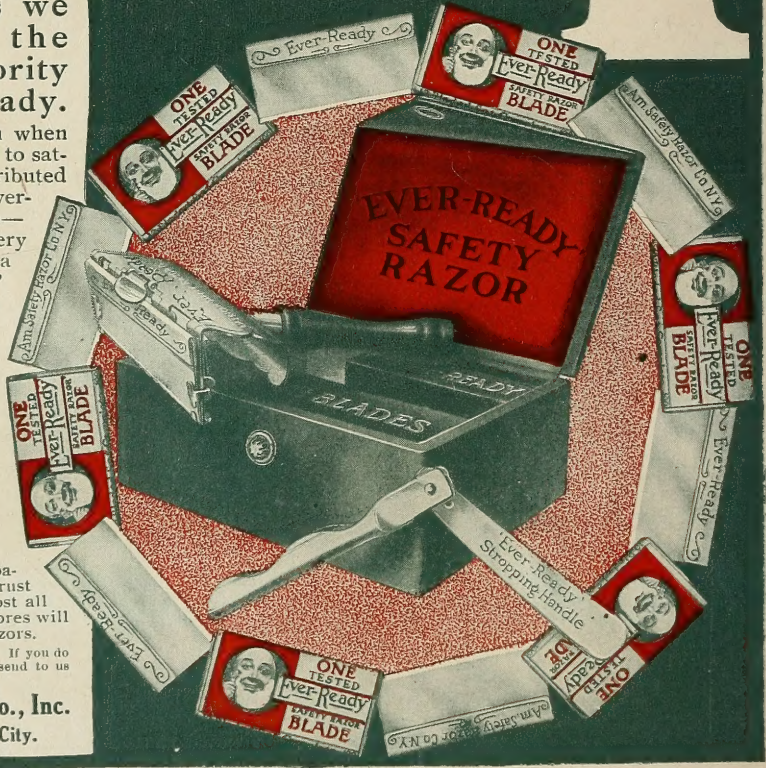

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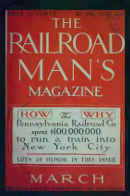

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